

Instrumental Vibrato: An Annotated Bibliography of
Historical Writings Before 1940

by

Timothy Verville

A Research Paper Presented in Partial Fulfillment
of the Requirements for the Degree
Doctor of Musical Arts

Approved March 2012 by the
Graduate Supervisory Committee:

Timothy Russell, Chair
Jere T. Humphreys
Robert Oldani
William Reber
Catalin Rotaru

ARIZONA STATE UNIVERSITY

MAY 2012

©2012 Timothy David Verville
All Rights Reserved

ABSTRACT

The use of instrumental *vibrato* in certain periods of classical music performances has become a highly debated and often fiery topic. The scholars of yesterday had only a few sources with which to gain a better understanding of the definition, mechanics, employment, and prevalent attitudes of those coming before them. This project aims to develop the foundation to a better understanding of instrumental *vibrato* by compiling primary source material written before 1940 and secondary source material relevant to that period into an annotated bibliography.

The source materials in this study were mainly comprised of treatises, tutors, method books, newspaper articles, and dictionaries. The instruments covered in this study included the violin family and relatives (viols, etc...), woodwinds (including recorder), members of the brass family, organ, other keyboard instruments, guitar/banjo/lute, theremin, and prototype/niche instruments (such as player pianos).

This project investigated 309 historical documents, finding 258 contained writings about instrumental *vibrato*. Of those, 157 were presented as bibliographic annotations. The author found no consensus at any time in the history of Western art music between 1550-1940 that *vibrato* is wholly acceptable or wholly unacceptable.

DEDICATION

This work is dedicated to my wife who has been tremendously supportive of me in the pursuit of my musical goals and aspirations. She has always lovingly made the best of every situation that has come our way.

ACKNOWLEDGMENTS

I would like to thank Dr. Timothy Russell for sparking my initial interest in the topic of instrumental *vibrato*, and allowing me to develop this project.

Additionally, I would like to thank the other members of my committee, Dr. Jere T. Humphreys, Dr. Robert Oldani, Dr. William Reber and Catalin Rotaru for their invaluable assistance not only on this project, but also in other academic experiences during my doctoral studies.

TABLE OF CONTENTS

CHAPTER	Page
1 BACKGROUND	1
Introduction	1
Statement of Purpose	2
Need for the Project	3
Selection of Researched Dates.....	3
Methods.....	4
Citations.....	5
Annotations	5
Text Corrections.....	6
2 DEFINITION AND DEFINING ISSUES	7
Vibrato.....	7
Historical Terms and Discrepancies	7
The Trouble with “Tremulous”	9
Historical Markings Indicating Vibrato.....	11
3 BIBLIOGRAPHIC ANNOTATIONS	12
Overview	12
Strings.....	12
Woodwinds	36
Brass	41
Organ.....	46

CHAPTER	Page
Other Keyboard Instruments.....	52
Guitar/Banjo/Lute	57
Singing and Instrumental Vibrato.....	61
Theremin	64
Dictionaries/Books/Treatises/Miscellaneous.....	66
4 SUMMARY.....	94
Overview	94
Areas Needing Further Resarch.....	95
Sources Yielding No Results	97
REFERENCES	103

CHAPTER 1

BACKGROUND

Introduction

The use of instrumental *vibrato* in certain periods of classical music performances has become a highly debated and often fiery topic. Until recently, the scholars of yesterday had only a few sources available to them as they sought to gain a better understanding of the definition, mechanics, employment, and prevalent attitudes of those coming before them. A resurgence within the past few decades of the desire to perform pieces as they were originally heard has created a demand for information regarding performance practices of the past. However, even the scholars of the past thirty years have been limited in their scope and range, often citing only a handful of sources on various aspects of performance practice. In the absence of a comprehensive guide, decisions are often based on only a small fraction of the available information on historical attitudes and practices. In the understanding of instrumental *vibrato*, the renowned musical researcher Carl E. Seashore (1866-1949) in 1939 wrote of a path by which better understanding might be attained:

I would [suggest] that we could make an array of the best thoughts of the best artists on the subject under consideration. We never understand a subject until we know the course of its development and the human attitudes which have molded its evolution. It is therefore important that we should turn to the best thoughts of the best artists for the past 400 years

which covered the period toward which our present topic has been subject to discussion.¹

This desire for a greater understanding about the use of *vibrato* was mirrored sixty-five years later by a prominent figure in the historically informed performance practice movement. In an article titled “The Sound Orchestras Make,” Sir Roger Norrington called for more research on instrumental *vibrato*, something he considered “an absolutely central part of our musical history.”²

Statement of Purpose

The purpose of this project was to develop the foundation for a single resource containing a comprehensive list of historical writings about instrumental *vibrato* written before 1940. The information presented will be compiled into an annotated bibliography of instrumental method books, tutors, concert reviews, opinion pieces, advertisements, scientific books and any other written materials that refer to instrumental *vibrato*. The instruments addressed will include all of the common orchestral instruments of today, their relatives (past and present), organ, other keyboard instruments, theremin, and unusual instruments that may have some similarities in comparison with standard orchestral instruments. Additionally, references to singing are also included when they contain references to or comparisons with instrumental *vibrato* techniques. The researcher hopes that

¹ Carl E. Seashore, *Psychology of the Vibrato in Voice and Instrument* (Iowa City, IA: University Press, 1936), 140.

² Roger Norrington, “The Sound Orchestras Make,” *Early Music* volume 32, no. 1, (Feb 2004): 2.

this bibliography will serve as a reference source for historical writings about instrumental *vibrato*, and that it will help readers in securing a better understanding of the opinions of past musicians, scholars and other learned individuals as well as past practices in instrumental *vibrato*.

Need for the Project

As of this writing, there is no comparable work covering the time period, instrumentation, and resources studied on the topic of instrumental *vibrato*.

Selection of Researched Dates

The chronological range of this project will include any date before January 1, 1940. The range covers a large span of musical history and was selected based on several factors. Recent developments in technology have allowed access to numerous sources of archival information, such as newspapers and other historical documents that were unavailable as recently as ten years ago. Sources from the early twentieth-century often provide greater detail regarding descriptions of and opinions about *vibrato* usage in performers than any other period. Another factor in the selection of the chronological range of the research was the writings of Norrington. Through his various articles and interviews, Norrington has stated “*vibrato* did not become common in European or American orchestras until the 1930s.”³ Therefore, an end date of January 1, 1940, was selected.

³ Ibid., 2.

Methods

The methods of research for this project consisted of several activities. The first was reading of physical publications of primary source material to find writings about instrumental *vibrato*. The second method was the use of electronic technology. Access to historical documents via Portable Document Files (PDF) gave access to materials from a wide variety of sources from throughout the world. These files were then analyzed in two steps. The first was processing the PDF through an Optical Character Recognition (OCR) program.⁴ The program scans the PDF and creates a searchable text version. Key terminology relating to *vibrato* was then sought within the document. The second step was then to visually scan the document for key terminology. The second step was followed regardless of the results of the first. The third method involved using a publication's website which was setup for searching their digitized archives. One example is the *New York Times* archive, which utilizes similar OCR technology as described above to search all of the newspapers in their archives and display results based on the search criteria. The fourth method involved searching secondary source material for any references to primary source material.

⁴ The program used for this project was PDF OCR X Version 1.9.19, developed by Web Lite Solutions Corporation. This program is available for purchase from <http://solutions.weblite.ca/pdfocrx/>.

Citations

Citations in the annotated bibliography are rendered in Turabian style 7th edition.⁵ Source titles are entered as they appear on the page of the document, and may at times disagree with Turabian rules for capitalization. Bibliographic entries are divided into instrumental sections and listed chronologically from the earliest date to 1940, by In cases where original source material is quoted or paraphrased in a secondary source, the original source was entered in the annotated bibliography with a footnote indicating the latter source.⁶ This was done to maintain the chronological order of the entries. Where access to an online database was used (e.g., the *New York Times* archives,) the original publication was cited for brevity and spatial considerations, omitting electronic access information. All electronic material was accessed between June 2011 and February 2012. A complete bibliography at the end of this document contains full bibliographic information, including information on electronic access.

Annotations

The individual annotations for each entry are intended to convey not only the information about *vibrato* they contain, but also to provide some context for that information. When citing material from the source, that material is followed

⁵ Kate L. Turabian, *A Manual for Writers of Research Papers, Theses, and Dissertations: Chicago Style for Students and Researchers*. (Chicago: University of Chicago Press, 2007).

⁶ This method was used when access to an original source was unable to be attained through earnest effort.

by the page number from which the information was obtained (e.g., p. X). When the bibliographic entry was not a primary source, the page numbers in the annotation refer to the secondary source. Some quoted material is not accompanied by page numbers because the source did not include page numbers, the secondary source did not reference a page number, or it is a continuation of a previously cited page.

Text Corrections

Due to the range and scope of this project, there were many inconsistencies in the handling and styles of writing of source material. The italicization of foreign musical terms was inconsistent throughout the sources and as such, all foreign musical terms are italicized without any indication of the original rendering. Additionally, obvious misspellings of words have been corrected without note. Any added text that was not original to a citation is enclosed in brackets. These additions are to help retain context and are not intended to alter the intent of the original author(s). Readers interested in how unedited/literal sources appear should refer to the original material.

CHAPTER 2

DEFINITION AND DEFINING ISSUES

Vibrato

The term *vibrato* is defined throughout this document as follows: Any intentional fluctuation/oscillation of a pitch less than a semitone (half-step), including tonal/timbre fluctuations that may or may not alter the pitch. In instances where a tone oscillates a semitone or slightly more, then it can be labeled as *vibrato* only if the deviation from the original tone was achieved by passing through the adjacent microtones along the way, and not through stepwise motion.

Historical Terms and Discrepancies

Throughout history, *vibrato* has been referred to by many names. These names varied from region to region throughout the range of the study, and have included variations on spelling. A term meaning one idea in Paris could mean something completely different in London. The historical terms referencing *vibrato* include, but are not limited, to: *balancement, battement, beben, bebend, bebung, bockstriller, bombo, chevrotter, chevrotterment, close shake, mezzo del ditto, ondeggiamento, ondeggiante, ondule, ondulieren, schwebung, shake, softening, sting, sweetening, trembling, tremente, tremolante, tremolo, tremando, tremulant, tremulieren, tremulis digitis, trillo, undulation, undulazione, vibrate* and *zittern*.

This wide range of terminology and mixed use have often led to multiple definitions, even within single given sources. Occasionally, it also produced a

chain of definitions/descriptions that referred to each other, even though they were attempting to express different points. Sometimes they have even led to dead ends. The following extract from William Ludden's *Pronouncing Musical*

Dictionary of 1875 illustrates this point:

- Balancement*: Wavering motion; a *tremolo*
Beben: To tremble, to shake, to vibrate
Bebende stimme: A trembling voice
Bebung: A shaking, a vibration, also a German organ stop.
Beckstriller: A bad shake, with false intonation.
Chevroterment: A tremor or shake in singing
Chevroter: To sing with a trembling voice; to make a bad or false shake
Ondeggiamento: Waving; an undulating or tremulous motion of the sound; also a *close shake* on the violin.
Ondule: Waiving, trembling
Onduliren: A tremulous tone in singing or in playing the violin.
Shake. An ornament produced by the rapid alternation of two successive notes comprehending an interval not greater than a whole tone nor less than a semitone.
Tremando: See *Tremolando*
Tremblant: Shaking: see *Tremulant*
Tremblement: A trill or shake
Trembler: To tremble, to shake
Tremblotant: Quivering
Trembloter: To quiver, to shake
Tremolando, Tremolante, Tremolo, Tremulo: Trembling, quivering; a note or chord, reiterated with great rapidity, producing a tremulous kind of effect.
Tremolant, Tremulant: An organ stop which give to the tone a waving, trembling, or undulating effect, resembling the vibrato in singing, and the tremolando in violin playing; also a harmonium stop of the same kind.
Tremore, Tremoroso: Tremor, trembling; see also *Tremolando*.
Trill: A Shake
Trillo caprino: A false shake
Trinado: A trill, a shake, a tremulous sound.
Vibrante: vibrating, a tremulous, quivering touch, full resonance of tone; resonant.
Vibrate/Vibrato "A strong, vibrating, full quality of tone; resonant.
Vibratissimo: Extremely vibrating and tremulous

Vibrazione: Vibration, tremulousness.
Vibrato molto: Extremely rapid⁷

The definition for *vibratissimo* indicates “extremely vibrating and tremulous,” but does not refer to vibrato directly. *Vibrante* adds a similar definition to *vibratissimo*, but cites resonance and tone, something in common with the definition of *Vibrato*. *Vibrante* also lists quivering as part of its definition, something also found under *tremolo*. *Tremolo* states it is a chord or note reiterated, but also the word tremulous is associated to it. That same association is found back in the definition of *vibrante*, which previously demonstrated links back to *vibrato*. But in this dictionary, *vibrato* and *tremolo* are expressed as two differing ideas. These related definitions help illustrate some of the discrepancies and mixed word usage found throughout history.

The Trouble with “Tremulous”

The word “tremulous” has Latin origins with the first known use occurring in 1611.⁸ Throughout historical writings on music, the word “tremulous” appears and is applied to a multitude of ideas, although the exact meaning of each usage is not always clear. As in the music dictionary extract given above, Ludden applies

⁷ William Ludden, *Pronouncing Musical Dictionary of Technical Words, Phrases and Abbreviations: Including Definitions of Musical Terms Used by the Ancient Hebrews, Together with Those Found in Greek and Roman Literature; a Description of the Various Kinds of Instruments, Both Ancient and Modern* (New York: J.L. Peters, 1875).

⁸ Douglas Harper, "un tremulous," *Online Etymology Dictionary*.
[http://dictionary.reference.com/browse/un tremulous](http://dictionary.reference.com/browse/un+tremulous) (accessed February 2012).

it to terms referencing the reiteration of a note (the modern usage of *tremolo*) as well as to an undulation in the sound (*vibrato*). In Johnson and Walker's *English Dictionary* of 1835, *tremulous* is treated similarly:

Shrill: Sounding with a piercing, tremulous, or vibratory sound.
To Trill: To trickle; to fall in drops or slender streams... To play in tremulous vibrations of sound.
Tremulous: Trembling; fearful. Quivering; vibratory.
Quake: A shudder; a tremulous agitation.⁹

In several definitions the authors cite sound as well as motion and emotion. The association of *tremulous* with motion and emotion continues in John Ogilvie's *Imperial Dictionary* of 1883, where *tremulous* is defined as: "1. Trembling affected with fear or timidity... 2. Shaking; shivering; quivering' as a *tremulous* limb; a *tremulous* motion of the hand or the lips..."¹⁰

Part of the main issue regarding the use of "tremulous" is that early writers about music were either unable to distinguish the aural differences between what are now considered modern *trills*, *tremolo*, and *vibrato*, or that they viewed them as possessing a similar origin and were consequently related to each other. The latter is suggested in Christopher Simpson's grouping of the *close shake* in a table of "shaked graces," a collection of pitch modifiers similar to modern trills and ornaments in his *The Division Viol*.¹¹ Regardless of the source of the definition,

⁹ Samuel Johnson and John Walker, *English Dictionary* (Boston: Nathan Hale, 1835).

¹⁰ John Ogilvie and Charles Annandale *The Imperial Dictionary of the English Language: A Complete Encyclopedic Lexicon, Literary, Scientific, and Technological* (London: Blackie & Son, 1883).

the term “tremulous” appears to have been applied to a wide range of ideas, all of which incorporate some sort of motion, being either a physical or acoustical undulation/fluctuation of the idea or object to which they are applied.

Historical Markings Indicating Vibrato

Vibrato is indicated in many ways through the use of symbols in historical writings. As with the previously listed historical terms, there are instances where the notation and symbols used today were not necessarily how they were employed in various regions or eras. One such example is an indication marked as: ~~~. This squiggly line, referred to in the present document as “the squiggle,” was used for multiple indications, from *trills* to octave displacements and *vibrato*. Additional usages of various symbols can be found in the annotations.

¹¹ Christopher Simpson, *The Division-Viol* (London W. Godbid, 1665).

CHAPTER 3

BIBLIOGRAPHIC ANNOTATIONS

Overview

The division of historical writings into sections is based on the family or relation of instruments where applicable. Under each section title is listed the instruments covered under that section.

Strings

This section includes all members of the violin and viol families.

Ortiz, Diego, Jacob Arcadelt, and Sandrin. *Trattado de glosas sobre clausulas y otros generos depuntos en la musica de violones*. Roma: Dorico, 1553.¹²

Under the subheading “The way in which one plays divisions,” Ortiz, a Spanish composer and musicologist, writes “the grace and effects which the hand has to execute are created by he who plays sweetly so that the music comes out first in one way, then in another, mixing in some deadened trills...”¹³

¹² Diego Ortiz and Ian Gammie. *Trattado De Glosas Sobre Clausulas Y Otros Generos Depuntos En La Musica De Violones / [a Translation of the Spanish Text from the Edition of 1553 / by Ian Gammie]*. (Great Britain: Corda Music, 1986).

¹³ The translation contains a note, in which Gammie states that the term “quibros amortiguados” equates to deadened trill and is not encountered in any other source known to him. Gammie proposes that one meaning may be that this is a close shake. The inclusion of the term “sweetly” in conjunction with the term merits its inclusion, as “sweetly” is often associated with *vibrato* from this time period.

Ganassi, Silvestro, and Giacomo Fogliano. *Regola rubertina regola che insegna sonar de viola d'archo tastada*. Venezia: l'autore, 1542.¹⁴

In writing about playing the viol, Ganassi describes how to recreate the mood of the music in terms of technique: “When playing sad music you should handle the bow gently, and with your bowing arm and the fingers of your left hand you should occasionally introduce a *vibrato* to add the necessary pathos to sad and melancholy music” (p. 9).

Simpson, Christopher. *The Division-Viol, or, An Introduction to the Playing Upon a Ground Divided into Two Parts, the First Directing the Hand, with Other Preparative Instructions, the Second Laying Open the Manner and Method of Playing Ex-Tempore, or Composing Division to a Ground: to Which, Are Added Some Divisions Made Upon Grounds for the Practice of Learners*. London: Printed by W. Godbid, 1665.

This guide, originally printed in 1659 contains a description of several graces that can be added to music. One called “the Close Shake” is defined as “when we shake the finger as close and near the sounding note as possible... touching the string with the shaking finger so softly and nicely that it makes no variation of tone”¹⁵ (p. 11). Simpson continues, “this may be used where no other Grace is concerned.”

Playford, John, Christopher Simpson, and Thomas Campion. *A Brief Introduction to the Skill of Musick In Three Books. The First: the General Grounds and Rules of Musick, According Tho the Gam-Ut and Other Principles*

¹⁴ Silvestro dal Fontego Ganassi and Hildemarie Peter, *Regola Rubertina, First and Second Part ; a Manual of Playing the Viola Da Gamba and of Playing the Lute, Venice 1542 and 1543* (Berlin: R. Lienau, 1977).

¹⁵ “Tone” meant “pitch” in this context.

Thereof. The Second: Instructions for the Bass-Viol, and Also for the Treble-Violin: Vvith Lessons for Beginners. By John Playford Philo-Musicæ. The Third: The Art of Descant, or Composing Musick in Parts. by Dr. Tho. Campion. With Annotations Thereon by Mr. C. Simpson. London: Printed by William Godbid for John Playford, and are to be sold at his shop in the Temple, 1667.

This book contains a reprint of the instructions on the performance of the *close shake* from Christopher Simpson's *Division Viol*. One notable difference is that the table of graces now states that they are proper for the Viol or Violin, of which the later is an addition. A diagram on the following page shows all manner of graces described. A *Shaked beat* is most akin to the modern *trill*, and the explanation shows notes moving from one pitch to another. On the staff this is indicated as pitches moving back and forth from a line up to the next adjacent space and back. The explanation for the *close shake* shows a similar pattern, but the notes move up and down within the space between two lines of the staff, never making it to any adjacent pitch.

Geminiani, Francesco. *A Treatise of Good Taste in the Art of Musick*. London, n.p., 1749.

Published in Italian and English, Geminiani lists under his fourteen ornaments of expression the *close Shake*. He states that while the other ornaments have been laid out in notational form, the *close shake* cannot be demonstrated similarly. He continues to describe *vibrato* produced on the violin through motion of the wrist. He describes the beauty found in combining it with a swell, and how other modifications to the employment

can emulate different moods. Geminiani concludes by stating that the *close shake* “should be made use [sic] as often as possible.” It is interesting to note that in a few subsequent republications, the section pertaining to the close shake was omitted.¹⁶

Mozart, Leopold. *Versuch einer gründlichen Violinschule*. Augsburg: Verlag des Verfassers, 1756.¹⁷

In his treatise on Violin performance, Mozart writes that *tremolo* is “an ornamentation which arises from Nature herself which can be used charmingly on a long note, not only by good instrumentalists, but also clever singers.” He continues to describe the motion required of the left hand to create this sound. Mozart states that since it does not fall firmly on just one note, that this undulating should not be played on every note. He cites that there are those who do so and describes them as “if they had the palsy.” Mozart gives some ideas about where to employ *vibrato* and includes a chart indicating varying speeds as a method of practice.

Tartini, Giuseppe, and Pierre Denis. *Traité des agrémens de la musique*. Paris: De la Chevardiere, 1776.¹⁸

¹⁶ See: Roger Hickman, “The Censored Publications of ‘The Art of Playing on the Violin’, or Gemiani Unshaken” *Early Music*, Vol. 11, No. 1. (January, 1983).

¹⁷ Translation from: Leopold Mozart *A Treatise on the Fundamental Principles of Violin Playing* (Oxford: Oxford University Press, 1985).

¹⁸ Translation from Giuseppe Tartini and Erwin R. Jacobi. *Traité des agréments de la musique* (Celle: H. Moeck, 1961).

In this book of ornamentation, Tartini devotes a section to the *tremolo*. Tartini states that this ornament “is by its very nature more suitable for instruments than for voices. If we meet it sometimes in a voice, this is because of the nature of that particular voice.” Tartini continues to describe the wave like motion of the air made by instruments, including details about producing it on the violin and cello by movement of the wrist. Additionally, he writes that the “speed of the wave motion can thus be increased gradually by starting slowly and quickening it by degrees.” This is illustrated by use of a note with a long squiggle overtop. Tartini writes that it sounds pleasing on ending notes and on longer notes of any singing passage, regardless of beat, and can be used on double stops of longer duration as well.

Alexander, Joseph. *Anleitung zum Violoncellspiel*. Leipzig, n.p., 1800.

Alexander’s *Violoncellspiel* contains an explanation of “*Die Bebung (tremolo)*” and indicates that it is to be notated with several dots over the top of one note. A half note is used for the example (p. 23). The accompanying text indicates that it is produced by a strengthening and weakening of the tone by the fingers.

Baillot, Pierre, and Jean Louis Duport. *Exercices pour le violoncelle dans toutes les positions du pouce: Supplement de la Méthode de violoncelle par Baillot, Lavasseur, Catel et Baudiot*. Copenhagen: C. C. Lose, n.d. [ca. 1832].

Baillot describes a manner of vibrato using the bow, which he names *Ondule*. It is produced over long notes by applying and releasing weight in a rhythmically timed pulse with the bow. It is indicated by the squiggle.

Kummer, Friedrich August. *Violoncell-Schule für den ersten Unterricht: nebst 92 zweckmäßigen Übungsstücken mit Bezeichnung des Fingersatzes ; 60. Werk.* Leipzig: Hofmeister, 1839.

This German method book describes *vibrato* (*Bebung*) and includes approximately a dozen exercises (located in the appendix) using the squiggle to demonstrate a few places in the music where it is to be employed. Under the section pertaining to sound and speech, Kummer writes that the tone can be made more expressive by adding *vibrato* to it (p. 28). He includes a description about how to produce *vibrato* by “fixing the finger on the string and having the hand make a *tremulous* motion.”

Romberg, Bernhard. *A Complete Theoretical & Practical School for the Violoncello.* London: Boosey & Co, 1840.

Under the section “Other Graces” is listed the “*Tremolo* (*vibration* or *close shake*) and is indicated with the squiggle (p. 80). The production of the *tremolo* is described as by “a rapid lateral motion of the finger when pressed on the string” and that it “gives fire and animation to the tone; but it should only be made only at the beginning of the note and ought not be continued throughout its whole duration” (p. 82). Romberg states that the *close shake* in previous times was overused and applied “indiscriminately over every note of duration. Romberg also clarifies the difference between

the *tremolo* referenced and the one by the same name used in orchestral opera accompaniment. This method book also contains an exercise indicating when to employ *vibrato* via the squiggle (p. 85).

Spohr, Louis, and John Bishop. *Louis Spohr's Celebrated Violin School*. London: R. Cocks, 1843.

Spohr's book provides copious information pertaining to *vibrato*, its production, and its use. In this translated version, Spohr writes about the *tremolo* and how it resembles the vibrations of a powerfully struck bell¹⁹ (p. 163). He continues: "this, with many other peculiarities of the human voice, the Violinist can closely imitate." He describes the wavering of the pitch above and below a note by the trembling motion of the left hand. Spohr warns that the deviation from pitch must only be minimal. The indication for *tremolo* is via dotted lines above a note or by the word itself in a piece of music. However, Spohr also states that "in modern ones [works], its employment is left entirely to the player, who however, must guard against using it too often, and in improper places." He also divides *tremolo* into four categories by speed. In one musical exercise, Spohr uses the squiggle to indicate *tremolo* (p. 199).

Campagnoli, B. *Metodo della meccanica progressiva per suonare il violino: diviso in quattro parti e distribuito in 132 lezioni progressive per due violini e 118 studi per un sol violino: preceduto dalle regole e*

¹⁹ This comparison is similar to one made by Leopold Mozart in his *Violonschule* nearly sixty years prior and indicates Spohr's possible knowledge and incorporation of Mozart's writing.

dall'applicazione delle lezioni e studi per servire di lume agli allievi o dilettanti: op. 21. Milano: Tito di G. Ricordi, 1853.

Published in Italian and French, the section title “*Tremolamento (Tremblement) o tremolo*” describes *vibrato* as an embellishment added to final notes. A description of how to achieve *vibrato* on violin follows. Campagnoli describes making *vibrato* in three ways with the hand, the first being slowly, the second increasing in speed and the third occurring quickly.

Giorgetti, Ferdinando. *Metodo per esercitarsi a ben suonare l'alto-viola.* Milano: Tito di G. Ricordi, 1854.

This Italian viola method uses two methods to signify *vibrato*. The first explanation comes on page 12, where Giorgetti states that when a squiggle appears above or below a note, it means to give the note a vibration by way of the finger (*vibrazione col mezzo del ditto*). This “makes a small ripple, precisely in the same way the sign indicates.” Giorgetti also warns against abuse, so as not to become a caricature. Exercises that follow employ the squiggle above notes. The first, indicated as *Andante molto sostenuto*, appears on page 51 and includes the word *vibrate* with the squiggle. The second comes in a *Largo-Marcia Funebre* on page 59 and also includes the word *vibrate*. *Il Tranquillo* on page 62, in *Larghetto*, uses the squiggle, the word *vibrate*, and a decrescendo marking with a *diminuendo* indication following. As the exercise progresses, eventually

the squiggle is combined with the text “animato e sempre diminuendo” (p. 63).

David, Ferdinand. *Violinschule*. Leipzig: Breitkopf & Härtel, 1870.²⁰

This violin method book published in German and English contains a section (p. 44) on *Vibrato* (*Die Bebung*) describing the motion of the finger required to produce it. David states that *vibrato* “may be made slowly as well as quickly, but must not be employed too frequently nor without sufficient reason.” Following the paragraph is a chart showing *vibrato* produced at different dynamics, as well as *crescendo* and *diminuendo* markings. The squiggle is present to indicate employment of *vibrato*.

Schröder, Hermann. *Preis-Violinschule*. Leipzig: Ruhle, 1894.

In a footnote in this violin tutor, a brief description of how the left hand moves to make *vibrato* is given (p. 66.) The indication for the footnote occurs in a musical exercise adjacent to a squiggle.

“Answers to Correspondents.” *The Strad*, Vol. 9-10, (1898): 27.

Under a section titled “Answers to Correspondents,” a definition of *vibrato* is provided.²¹ “*Vibrato* is a nervous action which can be partly

²⁰ This method, containing both German and English, was also published in Boston by Oliver Ditson in the same year.

controlled by practice. It is almost impossible to teach it. You will find some remarks on it in the treatise ‘Practical Violin Playing’ published by Blockley” (p. 27).

Gruenberg, Eugene. “The Theory of Violin Playing.” *Music*, Volume 16 (June, 1899): 186.

In this article on teaching methods for the violin, Gruenberg writes that many violin instructors respond with similar answers when asked about how to play *vibrato*, stating that it cannot be explained, and that it happens on its own, in small increments over time.

Jockisch, Reinhold. *Katechismus der Violine und des Violinspiels*. Leipzig: J.J. Weber, 1900.

A subsection on *vibrato* identifies it also as *Bebung* (p. 92.) A description about producing *vibrato* via finger movement follows. Jockisch references Spohr’s *Violonschule* and states that Spohr notated *vibrato* using wavy lines depicting varying speeds.

Joachim, Joseph, and Andreas Moser. *Violonschule*. Berlin: Simrock, 1900.

In this German-English edition²² of the tutor, *vibrato* is listed as the being the most important means of expression within the power of the left hand,

²¹ The publication did not print the received letters, but indicated this response is addressed to “Dulwich.”

²² An edition in French was published in Berlin by the same publisher as late as 1906.

next to the *portamento* (p. 96.) Joachim continues on to quote Spohr's comparison of a singer and violinist. To this is added a clear description about how to produce *vibrato* with the hand. Concluding remarks include instructions about its application: "...the pupil cannot be sufficiently warned against the habitual use of the *tremolo*, especially in the wrong place. A violinist whose taste is refined and healthy will always recognize the steady tone as the ruling one, and will use the *vibrato* only where the expression seems to demand it."

Winn, Edith Lynwood. *Violin Talks*. New York: C. Fischer, 1905.

Winn asserts that amateurs who play with *vibrato* are typically sharp and that she "would rather a pupil play entirely without warmth than use the *vibrato* indiscriminately" (p. 29). Her teaching philosophy does not involve including *vibrato* study until after tone and pitch are established in a student's playing (p. 33). She also writes "After I have taught it according to my own method, for I was never told how to do it, but to do it like my teacher, I must look around for a suitable piece to use. Of course we have used the *vibrato* in scales and etudes." Later, Winn clarifies when the study of *vibrato* should commence. "Some can learn the *vibrato* in the second and third years of study; others must wait until the fourth year, especially if their intonation is false" (p. 55).

Henley, William H. *École moderne du Violon. - Modern Violin School. - Op. 51*. London: J. Williams, 1906.

Book 12 in this 12-part series developed to teach violin contains “Studies in left-hand *tremolo*, double shakes, and solo pieces for violin alone, comprising all difficulties.” No mention of *vibrato* occurs in any of the previous 11 books.

Winram, James. *Violin Playing and Violin Adjustment*. Edinburgh: W. Blackwood & Sons, 1908.

In a chapter titled “The Close Shake,” Winram describes the method of producing *vibrato*. He begins by stating “The number of violinists who use the *close shake* on a wrong method is legion” (p. 30). Winram also writes that the *close shake* is not a flattening and sharpening of the sound, as some believe, only a flattening and naturalizing of the pitch. This motion also is made at varying speeds, slower the quieter the music, faster the louder it is. Winram also believes that “there should be no *close shake* in exercises or scales, other than melodic exercises, and it should be judiciously used at all times, as it is quite possible to have too much of a good thing. Beethoven’s music will sound lovely with very little *close shake*, or if preferred with none at all; whereas Wagner’s will gain rather than lose by its introduction” (p. 34).

Winn, Edith Lynwood. *How to Study Fiorillo, A Detailed, Descriptive Analysis of How to Practice These Studies, Based Upon the Best Teachings of Representative, Modern Violin Playing*. New York: C. Fischer, 1910.

Winn states that the manner of older performance (around the time of W.A. Mozart) was quite different from modern style. She states, “The old

writers use embellishments because they lacked intensity and were not skilled in the use of *vibrato*” (p. 15). However, Winn believes that *vibrato* must be used in the etudes of Kruetzer and that “the present use of *vibrato* gives warmth to any classic” work (p. 34).

"Rudolph Polk's Violin Recital," *New York Times*, 24 March 1920, p. 12.

In a concert review of a performance by violinist Rudolph Polk, the unnamed writer describes Polk's program which consisted of Tartini's *Sonata in G minor*, Saint-Saens *Concerto in B minor* and other smaller works. His performance is commended but the writer indicates that while he plays properly, Polk lacked “fire or imagination.” The reviewer also states “In *cantabile* passages there was breadth and freedom of bowing, and an almost entire absence of *vibrato*, which shall not be set down against him.”

Jacobs' Band Monthly Volume 4, no. 11 (November 1919): 66.

In a question and answer section of this Boston publication, a reader identified as H S.D. from Tahlequah, Oklahoma asks for a description of the “fundamental principles employed in producing the *vibrato*, *tremolo* and *trill*.” The unidentified responder responds that *vibrato* “has been humorously referred to as a disease particularly dangerous to tenors, but as indulged in by many violin students it becomes an abomination.” He

continues noting the differences in mechanics between *vibrato* and *tremolo* production on the violin and notes that there is often confusion between them. The responder describes a situation where his students will ask him when he intends to teach them to “tremble, quiver, jiggle, or shake.” A description of introducing students to *vibrato* follows with musical recommendations for practice. For the responder, one of the best instructors is “Observing those who are fortunate in the possession of a fine *vibrato* is always a help. After all, a good vibrato depends upon musical feeling, good judgment, taste-and long experience.”

Auer, Leopold. *Violin Playing As I Teach It*. New York: Frederick A. Stokes Company, 1921.

Under the chapter titled “Tone Production,” Auer describes *vibrato* as “the wavering effect of tone secured by rapid oscillation of a finger on the string which it stops, [and its purpose] is to lend more expressive quality to a musical phrase, and even to a single note of a phrase” (p. 58-59). He continues that singers and string instrumentalists often abuse it, “just like the *portamento*, and in doing so they have called into being a plague of the most inartistic nature, one to which ninety out of every hundred vocal and instrumental soloists falls victim.” Auer contends that those who use it habitually wrongly believe they are somehow making their playing more effective. He also notes that *vibrato* is used to hide bad intonation. He proposes that those who overindulge should abstain from using *vibrato*

until “you may then put it to proper artistic use, as your servant, not your master” (p. 62).

Rau, Fritz. *Das Vibrato auf der Violine und die Grundlagen einer natürlichen Entwicklung der Technik für die linke Hand*. Leipzig: C. F. Kahnt, 1922.

This book contains descriptions of various *vibrato* types including use of the arm to produce it (p.37). It also includes several exercises for practicing *vibrato*.

Watson, Foster. *The Encyclopaedia and Dictionary of Education; A Comprehensive, Practical and Authoritative Guide on All Matters Connected with Education, Including Educational Principles and Practice, Various Types of Teaching Institutions, and Educational Systems Throughout the World*. Vol. 4 London: Waverley Book Co, 1922.

Under the section “Violin, The teaching of the” is a subheading titled “The Vibrato.” Steps on how to produce it follow. In regards to usage, Watson writes: “Although the *vibrato* is used very freely in modern playing, the rule of ‘good taste’ should always govern it” (p. 1738). He continues “The steady tone must be perfected, the pupil always remembering it is the groundwork, the *vibrato* adding life and beauty to it...the tone of the player maybe described as unformed until the *vibrato* is incorporated with the work of the bow.”

"Harold Bauer's Recital," *New York Times*, 4 November 1923, p. 22.

Under the subsection title “Cecilla Hansen Plays,” is a review of violinist Cecilla Hansen performing Handel’s *Concerto in E major*, and Bruch’s *Concerto in G minor*. The reviewer reports: “... there were one or two

passages in the Bruch concerto when her use of *vibrato* on high notes made the intonation momentarily false and that about which no one can afford to be careless. It was more noticeable because elsewhere it was her purity of tone and style, and the feeling that her playing is founded on a true musical instinct, which made her performance delightful to hear” (p. 22).

"Recital by Max Rosen," *New York Times*, 21 October 1929, p. 25.

This concert review of violinist Max Rosen performance at Carnegie Hall details his program being as comprised of chaconnes by Bach and Vitali Dvorak's *Concerto in A minor*. The reviewer states "Mr. Rosen possesses a warm and full tone, which he marred by too much *vibrato* and an unpleasant habit of sliding up to a note" (p. 25).

"Eddy Brown in Recital," *New York Times*, 3 November 1929, p. 27.

Brown is described as being born American but foreign trained. The review of the recital indicates that Brown performed Bruch's *Scottish Fantasy*, Paganini's *Witches Dance*, Bach's *Chaconne*, Bloch's *Baal Shem*, Schumann's *Der Vogel als Prophet* Bonime's *Danse Hebraique* in addition to an unlisted work by Vivaldi. The reviewer commented: "Vivaldi and Bach were attacked in routine and workmanlike fashion, and were characterized by occasional impurity of tone, approximate intonation

and incongruous overuse of *vibrato* and sentimental shifting to the upper positions” (p. 27).

"Music," *New York Times*, 5 December 1929, p. 35.

In a review of the Schubert Memorial Concert is description of the performance of violinist Ruth Posselt. The article states: “Miss Posselt has an extremely sure and brilliant left hand and an unnaturally disagreeable tone... her tone in singing passages was neither warm nor expressive. She apparently tried to recompense for this shortcoming by a very exaggerated *vibrato*, so slow and wide that the tone gave the repeated impression of being off pitch, which, in passing seconds, it was, and which essentially, it was not” (p. 35)

"Sittig Trios Recital," *New York Times*, 10 December 1929, p. 39.

A review of a recital at Steinway Hall by the Sittig Trio performing Handel’s *Trio op. 2 no. 8*, Schumann’s *Trio in G minor op. 110*, Sjogren’s *Sonata op. 19*, and Bruch’s *Kol Nidrei*. The article praises the cellist as the standout performer while “The tone of the violinist suffered from overgenerous *vibrato*” (p. 39).

"Elshuco Trio again Heard," *New York Times*, 11 December 1929, p. 34.

Concert review of the Elshuco Trio performing Schubert’s *Trio in E flat*, Dale’s *Phantasie* and Goldmarks’s *Quartet in A*. The reviewer noted that the ensemble “interpreted much of the music with sensitive feeling and

phrasing” (p. 34) and among other reasons, partly attributed it to their
“enlivening plucked notes with judicious *vibrato*.”

"Give a Joint Recital," *New York Times*, 27 January 1930, p. 24.

A review of a recital by violinist Rudolph Fuchs and pianist Josef Wohlmann notes the duo performing a program of music by Bach and Brahms includes the following: "A warm *vibrato* not quite matched by the volume of the violinist and an under-emphasis of the emotional element on the part of the pianist prevented the more serious purpose and musicianship of the players from achieving all of the effects intended" (p. 24).

"Kochanski Gives Brilliant Recital," *New York Times*, 18 February 1930, p. 25.

This was a review of a Carnegie Hall performance by violinist Paul Kochanski of Vivaldi's *Concerto in A minor*, Mendelssohn's *Concerto in E minor*, Ravel's *Tsigane* and other shorter works. The writer states that that while attention to detail is usually characteristic of Kochanski's playing, the violinist "overlooked his "carrying of intense *vibrato* into the top register of the E string, with the result that the comparatively weak resistance there allowed the adjoining A to echo distantly and the small intervals between tones at this height often allowed the notes immediately above and below to be heard" (p. 25.)

"Leopold Auer, Man and Artist," *New York Times*, 27 July 1930, p. 99.

This article is in remembrance of violinist Leopold Auer. In discussing his life and works, the writer discusses Auer's violin method *Violin Playing As I Teach It* and mentions that it instructs how to "produce a living tone, an exquisite *vibrato*, a shimmering glissando and many other feats we have heard his pupils perform with such notable virtuosity²³" (p. 99).

"Lener Quartet Gives Artistic Concert," *New York*, 21 October 1930, p 38.

review of Lener Quartet describes a performance in Carnegie Hall of Brahms' *Quartet in A minor*, Weiner's *Quartet in F sharp minor*, and Haydn's *Quartet in F*. The ensemble was commended on the performers' "romantic and poetic coloring "with "delicate lace and tapestry-like effects" (p. 38). However, the reviewer found fault in the tonal balance of the ensemble and stated "Mr. Lener further intensified this by an emotional *vibrato* which occasionally suggested the note below and above the one being sounded at the time..."

"Vasa Prihoda Heard at Carnegie Hall," *New York Times*, 9 November 1930, p. 25.

A Carnegie Hall recital review of Czech violinist Vasa Prihoda notes his performance of Mozart's *Concerto in D major* and Tchaikovsky's work of the same name. The reviewer is impressed with the performer's display of

²³ While Auer appears to be against anything more than strict use of *vibrato*, he notes in his violin method that most of his students employ it more frequently.

technical prowess, but in the Mozart concerto finds fault with Prihoda's artistic decisions. "Substituting slowness for breadth of conception, and mere dynamic softness for spirituality, he complicated matters by distorting the pitch of cantilena passages through an exaggerated *vibrato* and accents which caused the G string to rasp frequently and the pitch of the tone played to suggest the note above and below it" (p. 25).

"Felix Eyle Gives Recital," *New York Times*, 16 November 1930, p. 24.

This recital review of violinist Felix Eyle describes his performance of Handel's *Sonata in A*, Bach's *Adagio and Fugue in G minor*, Glazunoff's *Concerto in A minor*, and Szymanowski's *Three Poems for Violin and Piano*. The reviewer summarizes the concert: "In the general excellence a slight fault stood out, the wide *vibrato*. While this made for warmth, it gave some queer and undoubtedly unintended results in pitch when a note was sounded by the recitalist simultaneously upon an open and upon a stopped string" (p. 24.)

"Weissenberg in Recital," *New York Times*, 6 February 1931, p. 26.

In a review of violinist Ignacy Weissenberg is a description of a program featuring Handel's *Sonata in E*, Vivaldi's *Chaconne*, Saint-Saens *Concerto in B minor* and short pieces by Achron, Grandos, Chopin, Beethoven and Wieniawski. The reviewer commends Weissenberg's effective bowing but "Other technical matters were not so happy... A slow, wide *vibrato* clouded the intonation..." (p. 26.)

"Newly Recorded Music," *New York Times*, 1 March 1931, p. X10.

This review by Compton Pakenham is of the Lener Quartet's recording of music by Mozart, Brahms and Schubert. Pakenham notes: "As to the quartet itself, here again is a further token of that satisfactory tendency which has been noted in their several recent releases. That excessive *vibrato*, particularly of the first violin, together with the evident aim of all concerned not to miss a possible emotional trick, features which marred some of their performances a year ago but which have been less obvious lately, seem now to be almost entirely cleaned up" (p. X10).

"Beatrice Griffin Plays," *New York Times*, 18 March 1931, p. 33.

In a concert review of violinist Beatrice Griffin performing Handel's *Sonata in E*, Bruch's *Concerto in G minor*, Wieniawski's *Polonaise in D* and Sarasate's *Romanza Andaluza*, the reviewer commends Griffin on her ability to vary the tone color on different strings. However, the review noted: "The effect of this last refinement might be further heightened by varying the *vibrato*" (p. 33).

"Newly Recorded Music," *New York Times*, 24 July 1932, p. X5.

This is a review by Compton Pakenham of the Lener Quartet's recording of Brahms' *Quartet in A minor*. Pakenham discusses various recording endeavors by Columbia Masterworks and of the ensemble's work on the current recording. He writes: "The balance is more secure than in their

earlier work, the sobbing *vibrato* of the first violin is considerably toned down and the struggle to extract every ounce of sentiment is not by any means so obvious as once it was” (p. X5).

"Guila Bustabo, Violinist, Plays," *New York Times*, 16 December 1932, p. 25.

This review of violinist Fuila Bustabo performance at Carnegie Hall concert notes the program consisting of Sinding's *Sindling's Suite in A minor*, the adagio and fugue from Bach's *Sonata in C major*, Goldmark's *Concerto Op. 28*, and works by Chausson and Paganini. In the Bach section of the program, the reviewer writes: "... it was the adagio which followed [that] brought a mellowing timbre that invested the G string in particular with an admirable rich, mature voice, which only occasionally waxed over sweet, due to a too ample *vibrato*" (p. 25).

"Musical Art Quartet Heard," *New York Times*, 15 February 1933, p. 17.

In a review of The Musical Art Quartet, the writers notes that Haydn's *Quartet in G major op. 64 No.4* was performed "by adopting a tone relatively free from *vibrato* and by the lightness of their fortes, projected the delicious music with all its patterns luminously and vitally supple, yet maintained in the crisp and pellucid air we are pleased to term 'classic.'" (p. 17).

"1929 -- A Satire, by David Stanley Smith, Finds a Place on the Philharmonic Program," *New York Times*, 16 November 1933, p. 31.

A concert review under the subheading "Byrd Elyot in Debut" violinist Byrd Elyot performs a program of Bach's *Sonata in G major*, Sibelius' *Concerto in D minor*, Slavenski's *Sonate Slave* and other smaller works. The reviewer notes that while Elyot is the winner of the National Federation of Women's Club prize, she is "not fully in command of her gifts, and that moreover, she has superimposed upon a style naturally sound and unostentatious, certain effects that she does not truly feel, such as an excessively warm *vibrato* in G string solo work" (p. 31).

"Music in Review," *New York Times*, 5 December 1935, p. 30.

This review of Croatian violinist Zlatko Balikovic at Carnegie Hall includes a description of the program featuring Vivaldi-Resphigi's *Sonata in D major*, Bach's *Sonata in G minor*, Brahms' *Sonata in D minor* as well as shorter selections from Chausson, Slavenski, Paganini and Szymanowski. The article states that Balikovic's tone "was full and warm, yet it somehow failed to impress, except at times in sustained slow passages"(p. 30). The reviewer continues: "In the Vivaldi-Resphigi sonata in D major, with which he began his program, Mr. Balokovic was at his best in the largo, where, despite the slow *vibrato* which gave too flaccid a pulsation to the tone, he showed that he could make a melody sing forth with a certain amount of inner feeling, if not with entire conviction."

"Opera in London," *New York Times*, 5 December 1937, p. 220.

Under an untitled subsection is a review of the Prague Quartet. After an introductory paragraph about the ways in which the ensemble was ahead of their time in breaking through the mold of the dictatorial principal violin leader, it continues on to note: "Their style, however, will be considered old-fashioned by present-day technicians. The first and second violins use *vibrato* as sparingly as it was used before Kreisler came to show us its advantages in hiding (when the violinist is not a Kreisler) slight imperfections of tone and intonation. Fortunately the intonation of the Czech musicians is beyond reproach; clean, manly tone caused some regrets among those who prefer the leveling, over-sweet *vibrato* effect. For my part I felt thankful that violinists should still exist who realize that true violin tone is produced by a masterly handling of the bow and not simply by the wobble of the left hand" (p. 220).

"Music," *New York Times*, 21 March 1939, p. 30.

A review under the subtitle "Parronchi Give a Recital" describes Spanish cellist Bernard Parronchi performing Beethoven's *Variations on a theme of Mozart* and Schubert-Cassado's *Concerto in A minor*. The reviewer notes "Mr. Parronchi is an enthusiastic exponent of what may be called the 'confidential' style... His tone is small and colored by a fast and narrow *vibrato*... His whole technique is closely violinistic [sic]" (p.30).

"Other Music in Review," *New York Times*, 26 November 1939, p. 45.

This article about a concert by Toscanini and the NBC Orchestra reviews a performance of a Beethoven cycle including *Leonore Overture nos. 1 & 2*, the *Eighth Symphony*, excerpts from *Prometheus*, and the middle two movements of the *Quartet in F major* by the entire string section. In regards to the quartet arrangement, the reviewer writes: “the arrangement for string orchestra is definitely an improvement in the communication of Beethoven’s exalted thought. The slightest rasp in the change of a single bow, a momentary unevenness of the individual *vibrato*, or a wrongly stressed accent may dispel the mood so magnificently established and maintained in the score” (p. 45).

Woodwinds

This section includes all members of the woodwind family found in a modern orchestra, including their relatives and saxophone.

Ganassi, Silvestro, *Opera intitulata Fontegara*: Venice: n.p., 1535.²⁴

This treatise on “the art of playing the flute/recorder and free ornamentation” covers many aspects of the necessary qualities considered necessary to perform music well. In chapter 24, Ganassi describes trembling the finger over the hole of the recorder to produce a type of *trill*.

²⁴ Translation from Silvestro Ganassi and Hildemarie Peter. *Opera intitulata Fontegara: Venice 1535 : a treatise on the art of playing the recorder and of free ornamentation* (Berlin-Lichterfelde: R. Lienau, 1959).

“*Trills* can be made with a third, with a whole tone, and with a semitone, in all of which the interval may fluctuate, a little more or a little less. These variations are barely perceptible to the ear with precision, but you can fix them accurately on a stringed instrument on a single string, and then discover the suitable fingering on the recorder. The *trill* in thirds is a lively ornament; the interval may be larger or smaller than a third. The semitone trill, on the contrary, is a gentle and charming ornament; in this also, the interval may be larger or smaller” (p. 87). In chapter 25, Ganassi describes *trills* further. “In the chart of *trills*, the finger holes are some of them closed and others half open. Concerning the latter, I cannot give you precise instructions. You should half-close the holes somewhat more or less as your ear requires and as you feel to be right” (p. 88). Ganassi also notes that the *trill* and other ornaments are to be applied within the confines of solo playing, and that when performing with others, one should work to match the other players.

Prelleur, Peter. *The Modern Musick-Master; Or, The Universal Musician, Illustrated and Improv'd...Finely Engrav'd*. London: At the Printing office in Bow Church Yard, 1731.

This method book covers several instruments of the period. The section on the German-Flute details how to soften a pitch by quickly beating your finger on the half hole of the next pitch down (p. 9.) An example with a modified squiggle is included, which is later reproduced in *Apollo's Cabinet* of 1756. In the concluding paragraph, Prelleur states: “Be hard to

teach a method of knowing exactly all the notes where on the graces should be placed, but in general, the softenings are made on long notes...” In the section for the Flute (Recorder), Prelleur also discusses gracing the music by playing on the half hole immediately below the note (p. 4.)

Tromlitz, Johann George. *Ausführlicher und gründlicher Unterricht die Flöte zu Spielen*. Leipzig: A.F. Böhme, 1791.²⁵

Chapter ten details the ornaments available on the Flute. The *flattement* falls into a category (with others) designated as “essential ornaments, then, as they are used these days.” Tromlitz describes the *flattement* as “an undulating, fluctuating motion which is made on a long, held note, and can be slow or fast, uniform or waxing and waning. On the flute it is produced by repeatedly partially or halfway closing and opening the next hole down from the long note with the finger.” Tromlitz warns against using the chest to perform this fluctuation, stating it will impair having a firm and pure tone. “Since the note must tend alternately a little towards the low side and back up again and keep fluctuating, the ear will easily be able to decide how far with each movement the finger, stretched out and placed at the side of the hole, must cover it. With some of them it is only a quarter, with some half, even three quarters, and with several the hole is completely covered.”

²⁵ Translation from Johann George Tromlitz, and Ardal Powell, *The virtuoso flute-player* (Cambridge: Cambridge University Press, 1991).

Garnier, François-Joseph. *Methode Raisonnée pour le Haut-bois*. n.d. (ca. 1798).²⁶

Garnier, in a section on *trills* describes the finger covering half the hole and also quivering of the lips. He equates this to the pulsation of the bow used on the violin. Exercise 13 includes several dotted half notes with an 8th note slash through the beam, accompanied by four dots underneath, all under one long Squiggle. In a duo marked VI, the second player's part consists of several measures of dotted half notes slurred together. Above the part is the number 8 with a Squiggle running the length of the multi-measure slur.²⁷

De Ville, Paul. *Universal Method for the Saxophone*. New York: C. Fischer, 1908.

In the opening of this Saxophone tutor is a list of musical terms. Among them are the definitions for *Tremolando/Tremolo* as “A tremulous fluctuation of tone” and describes *vibrato* as “A wavering tone-effect, which should be sparingly used” (p. 9.) The method also contains a subsection on a technique called “Trembling Breath.” A description of its production is not given and instead De Ville presents an opinion about the ornamentation of music, noting that ornamentation should not be done

²⁶ Translation from François-Joseph Garnier and Peter Hedrick, *A Systematic Method for the Oboe* (Columbus, Ohio: Early Music Facsimiles, 1987).

²⁷ It is unclear whether this is an indication to play the notes an octave displaced in either direction, using *vibrato*, or something else entirely.

except where indicated by the composer (p. 110). He states that over ornamentation “is offensive to good musical taste and amounts to vulgarity” but cedes that an “artist” will know the proper place to perform them. Under a selection of twenty transcribed operatic melodies, De Ville writes that a student should progress towards “delivering a melody as if it were rendered by a great singer (p. 184) and that “vibrating breath should be strictly avoided.”

Langey, Otto. *Otto Langey's Celebrated Tutors, Piccolo*. New York, N.Y.: Fischer, 1919.

After the index of this tutor is a section titled “List of Principal Words used in Modern Music With their Abbreviations and Explanations.”

Vibrato is defined as “A wavering tone-effect, which should be sparingly used” (p. 1).

The Flutists, 1, no. 5 (May 1920).

In a section of questions sent to the publication, one unidentified reader asks, “Please explain the *vibrato* and its use” (p. 117). The response indicates that it is “either a false *trill* of infinitesimal proportions or a minute breaking of the naturally steady flow of the air column or stream that issues from between the lips. It is the former with vocalists and players of stringed instruments who resort to it for warmth of tone.” The responder states that its judicious and sparse usage is agreeable, but that their personal preference is in bitter opposition to using any *vibrato*. The

responder writes that *vibrato* is often used to cover up the faults of the performer.

"Philharmonic has a Saxophone Soloist for First Time in its is 3,543 Concerts," *New York Times*, 12 November 1939, p. 45.

In a review of a Philharmonic Symphony Society concert at Carnegie Hall, the writer describes a performance of music by Debussy and Ibert. Specifically the article focuses on the Scandinavian saxophonist Sigurd Rascher. The reviewer writes of Rascher: "In his hands, the saxophone sheds its nightclub abandon and becomes, in fact, continent and almost reserved. His tone is pure, smooth and varied. It has not a trace of Broadway wobble or honeyed slides. When its natural *vibrato* is suppressed it takes on the color of the French Horn; and it invades the realms of the 'cello and clarinet with no protest from the ear" (p. 45).

Brass

This section includes all members of the brass family, including the French horn.

Mataura Ensign, Issue 193, New Zealand, 24 September 1896.

This untitled article is a collection of judge's notes from a competition. The winning ensemble from Bluff Navales was commended for their good phrasing overall on the piece *Maritana*. The euphonium solo is cited as "very fair, uses *vibrato* too much on sustained notes" (p. 2).

“Brass Band Contest,” *Evening Post*, 5 February 1903, p.5.

This article is a review of an instrumental competition in New Zealand of B flat bass, flugel horns, and soprano cornets. The judge was “unstinted in his praise of the competitor, especially of the winner, J. Fea, who would have received the [highest] possible marks only [except] for *vibrato*” (p. 5).

“Bands’ Contest,” *Otago Witness*, 11 February 1903, p. 28.

This article contains notes from the sixth annual North Island Brass Bands Association²⁸, which encompassed solo and ensemble competition in New Zealand. In the flugel horn competition, winner J. Fea is awarded six points short of the maximum number available. This was due to a “too liberal use of the *vibrato* in the slow movements. Fea played with capital expression, and but for a tendency to employ the *tremolo* too much in the slow movements would have scored the maximum number of marks. He gave the theme with true feeling, and in the variation played brilliantly, according to the judge, and with faultless intonation” (p. 28).

Wanganui Chronicle, 14 February 1905, pg. 5.

These untitled judge’s notes are from the previous days baritone horn competition in Auckland, New Zealand. S. Signal performing *Weiderkehr*

²⁸ This is the same competition as reviewed under “Brass Band Contest.” *Evening Post*, Volume LXV, Issue 30, New Zealand 5 February 1903.

is listed as tying for second place. Of his performance, the judge wrote: “A careful rendering of a none too easy solo for a bass instrument.... Very faire, but the player is inclined to use the *vibrato* or *tremolo* effect on sustained notes, which of course should be avoided. Firm and true notes are desirable. The *vibrato* is a mistaken expression effect” (p. 5).

“The Judge’s Notes,” *Feilding Star*, Nov 8 1905, p. 2.

This New Zealand article contains a publication of judge’s notes from the Feilding Band Contest. In reviewing the Blenheim Band, the judge writes: “The bass trombonist has a very bad style of tounguey [sic]; in fact his method is entirely wrong. I would advise him to study the rudiments of playing and to get rid of the *vibrato* or *tremolo* effect which he uses to excess”(p. 2).

“Besses O’Th’ Barn Band,” *Nelson Evening Mail*, 21 January 1907, p. 1.

This article is a concert review in Christchurch, New Zealand of Besses l’the’ Barn Band. Commenting on the concert, the reviewer discusses two trombone soloists identified as Mr. Lawson and Mr. Tom Bowling. Of their performance, the writer notes that they “produce a fine tone, which is expressive. Mr. Lawson is very sure, and has a good range. If not strong, he is always sufficiently full of volume. Both players impart a considerable *vibrato* into their color renderings. This certainly sounds pretty and effective, but it is questionable if it is ideal. Of course this characteristic is only noticeable in the solo work”(p. 1).

“Band Column,” *Otago Witness*, 1 January 1908, p. 66.

In an article about current events in local bands, one section includes a discussion with Alex Owen, a local conductor in New Zealand. During a rehearsal of *Tannhauser*, the topic of *vibrato* arises, and the writer and Owen appear to be in agreement about its usage: “For those of our players who think plenty of *vibrato* sound nice, although told often enough that it is wrong, Mr. Owen’s advice is right to the point. ‘What do you put that *vibrato* into every two or three bars for? Why put it in? It isn’t so written in our score. D’ye think it is clever, or artistic, or that it is effective? The *vibrato* isn’t good music, it isn’t artistic, it isn’t anything. Get rid of any such notion. *Tannhauser* doesn’t need it anyway. Get rid of it for your own reputation’s sake” (p. 66)

“A Grade Bands,” *Taranaki Herald*, 29 February 1908, p. 7.

This article is a report on bands at a New Zealand competition. The author notes: “Nelson Band was also accorded hearty cheer as its members took the platform... There was however a little too much *vibrato* in the cornet” (p. 7).

Colonist, 2 January 1909, p. 4.

In reviewing a New Zealand tenor horn competition, the second place winner, identified as Hansen, is noted as performing *Fatherland* by an unidentified composer. The writer states of the performance “The executive rendering was not as clear as was desirable, and the player was

handicapped by being accompanied by a strange pianist. Hansen showed a desire to use the *vibrato*, and undesirable feature” (p. 4).

“Band Contest,” *Marlborough Express*, 3 November 1909, p. 8.

This article contains judge’s notes of a B flat cornet competition in New Zealand. Of the competitor J. Kelly who performed *Pretty Jane*, the judge noted: “opening melody very nice-still affected by untunefulness, and top G was sharp on double pause bar-rather much *vibrato*-phrasing faulty in the second last bar”(p. 8).

“Stage Fright,” *Evening Post*, 20 February 1939, p. 10.

This article is a review of a national contest in Christchurch, New Zealand. The review describes how four of the competitors withdrew from the competition due to stage fright. The article continues with commentary from the judge regarding those who were not overcome with fear stating “There were very fine players... The use of the *vibrato* was, however, excessive, and there was quite an amount of exaggeration” (p. 10).

Organ

Pisa, Agostino. *Breve dichiarazione della battuta musicale*. 1611.²⁹

The preface to this musical treatise mentions the use of a *Vox Humana* (*la voce humana*) stop, describing it as two voices sounding at the same time (p. 31). This oscillation between the two voices creates a wavering in tone.

Burney, Charles. *The Present State of Music in Germany, the Netherlands, and United Provinces: Or, the Journal of a Tour Through Those Countries, Undertaken to Collect Materials for a General History of Music*. London: Printed for T. Becket, 1775.

While in Dresden, Burney writes of an organ that contains seven stops, those being the viol da gamba, bassoon, *vox humana*, trumpet, schalmo, *tremulant* and *Schwebung*. Burney notes: “this last, as the name implies, is to imitate a *close shake*” (p. 49).

Audsley, George Ashdown. “Notes on the Concert-Room Organ.” *English Mechanic and World of Science* Volume 46 no.1, 176 (October 7, 1888): 125.

Under the subheading “Expression Levers and Tremulants” this technical article describes the mechanics of the organ. But in a few lines dedicated to artistic opinion, the writes notes “Much of the utility and beauty of the *tremulant* depends upon the character of the *vibrato* it generates” (p. 125).

After stating that most tremulants are too fast, the author states that it

²⁹ Translation from Agostino Pisa, *Breve dichiarazione della battuta musicale* (Bologna: Forni, 1969.)

should “impart a wave-like ripple to the speech of the pipes, and that sufficiently slow to allow the ear to recognize the true tone of the pipes.”

“Henry Smart’s Compositions for the Organ.” *The Musical Standard* Vol 17, Third Series No. 786 (23 August 1879) 112.

In an article discussing the works of Henry Smart, the writer comments on the frequency and use of *vibrato*. “The former class of composition produces its effect rather by beautiful stops than beautiful writing, and, as it belongs to musical ‘sweets,’ and not to the more substantial entertainment which the organ can provide, Smart has used it sparingly. We do not deprecate its use, and its effects are legitimate effects, but, like the *vibrato* and the *portamento* on the violin, its two frequent introduction would soon cloy”(p. 112).

“Music for the People,” *Evening Post*, 7 March 1906, p. 7.

This article describes the opening events for the new city organ in New Zealand. After a description of the ceremony a reviewer describes the inaugural performance. One selection in particular, Saint-Saens’ *La Cygne*, was received so well by the audience members to such a degree that the piece was repeated. In describing the effects of the work, the write describes how the *Vox Humana* stop was employed, and that it and “the *Voix Celestes* and the *Tremulant* belong to a class of effects of which he [sic: we] wave a great deal too much nowadays. Like the *vibrato* of the real human voice (of which it must be confessed the *Vox Humana* is at

best somewhat a caricature), these effects are acceptable in an inverse ratio to the extent and frequency of their use; in isolated passages the yare very expressive, but a little of them goes a long way” (p. 7).

Wedgwood, James Ingall. *A Comprehensive Dictionary of Organ Stops: English and Foreign, Ancient and Modern, Practical, Theoretical, Historical, Aesthetic, Etymological, Phonetic*. London: Vincent Music Co, 1907.

This book about organ stops provides purposes and some background information about the development and use of stops themselves. Page 66 lists the Fan *Tremolo* a being related the *Tremulant* stop. After a description about the mechanics of the stop, Wedgwood writes: “In a large organ of the ordinary type both varieties of *Tremulant* might well be employed-the Fan *Tremulant* for rapid *vibrato* effects (e.g. with *Vox Humana*). The ordinary type, powerful and essentially slow, for the other effects.” Later, the *Tremulant* is equated in English as *tremulous*, and the Latin form of *Tremulous* is equal to shaking. Wedgwood writes that the *Tremulant* was created in Europe in the middle of the 16th century and introduces an undulating effect into the tone. “The earliest known reference to the use of the *Tremulant* in this country occurs in connection with Dallam’s organ at King’s College, Cambridge (1606), in which it figured as ‘ye shaking stoppe’” (p. 157). Under the listing for *Vibrato*, Wedgwood simply lists “See *Tremulant*” (p. 169). In discussing the *Vox Humana* stop, Wedgwood again links its usage with the *Tremulant* stop,

noting that “the *Vox Humana* sounds at its best when under the influence of a *Tremulant* (or *Vibrato*) of delicate and rapid pulsation” (p. 180).

Skinner, Ernest M. *The Modern Organ*. New York: The H.W. Gray Co., 1917.

Skinner’s book contains sections pertaining to the operation of the organ. In discussing the operation of the *tremolo*, Skinner states “A *tremolo* should be identical in quality with the *vibrato* of a well trained voice, spontaneous and devoid of departure from a true wave-line.” (p. 7). Later, in making voicing/registration comparisons, Skinner discusses the violin and the organ. “The Violin produces a *vibrato* only equaled by the human voice. The organ string [stop] is least effective in this respect. The organ string [stop] is, apart from its out-of-tune wave, only to be modified *per se* by the swell-box” (p. 29).

Audsley, George Ashdown. *The Organ of the Twentieth Century; A Manual on All Matters Relating to the Science and Art of Organ Tonal Appointment and Divisional Apportionment with Compound Expression*. New York: Dodd, Mead, and company, 1919.

Audsley, in a discussion about orchestral stops, notes the voicing of the *Violoncello Vibrato* and *Violino Vibrato* stops, and suggests they “be voiced softer than orchestral stops, and tuned a few beats sharp, so as to impart an expression of nervous power to a full combination, such as is observable in the combined tones of the full string division of the grand orchestra” (p. 325).

Nevin, Gordon Balch. *A Primer of Organ Registration*, Boston: Oliver Ditson Co, 1920.

This manual seeks to instruct the reader in the best way to choose registrations for the organ. Nevin suggest that for several years, it has become trendy to overuse the *tremolo* and *celeste* (*vibrato*) effects. He states that the modern *tremolo* stop is no more than a slow-speed *vibrato*, and is “different from the old fluttering-bird-wing devices” (p. 59.) Nevin also notes that in performing orchestral transcriptions “the *tremolos* be omitted from the stops representing the wind-band alone (*Oboe, Clarinet, Bassoon, English Horn, etc.*)-thus preserving more nearly the natural color and technic of the original...”He continues “*tremolos* are most effective with long, flowing and expressive melodies-such passages as a violinist would naturally treat with considerable [use] of the ‘wrist-*vibrato*.’” This wrist vibration string performance is later linked to the *celeste* stop (p. 84) producing a “delightful wave-like or *vibrato* effect of considerable value in lending warmth to the tonal effect.” Nevin also discusses a stop added in recent years, the *Viol D’Orchestre*. This is explained as the best example at duplicating the solo violin “especially when they are in the *celeste* form, the slight wavering or *vibrato* of the tone recalling the wrist-*vibrato* of the violinist” (p. 94).

Grace, Harvey. “The Organ Works of Bach,” *The Musical Times*, no. 936 London & New York Novello, Ewer and co. (Feb 1921): p. 92.

Under the subsection “V. The Sonatas for Two Manuals and Pedals” Grace makes a comparison about organ and string player performance. “A very soft 16-ft. may be used for one of the manual voices at times, especially in the more expressive slow movements, and, just as string players would play some of these passages *vibrato*, we need not be afraid to use the *tremolo*, always provided that we have a good one—a wave, not a rattle” (p. 92).

Audsley, George Ashdown. *Organ-Stops and Their Artistic Registration; Names, Forms, Construction, Tonalities, and Offices in Scientific Combination*. New York: The H.W. Gray Co., 1921.

In describing “Orchestral String Tone”, Audsley notes that the string stops are utilized with other effects to more closely resemble the sound the orchestra makes, chiefly *con sordini* and *vibrato* (p. 21). In describing individual string stops, Audsley writes that the *Violin Vibrato* stop is tuned “a few beats sharp, so as to produce a wavering effect when sounded in combination with a correctly tuned unison string-toned stop” (p. 279). Similar is said of the *Violoncello Vibrato* stop.

Dickinson, Clarence, and Helen A. Dickinson. *The Technique and Art of Organ Playing*. New York: H.W. Gray, 1922.

Under the subsection of this method book “Registration of Orchestral Accompaniments” Dickenson lists a few example passages and his suggestions for registration. For Mendelssohn’s “Elijah” he states that the “obligato, originally scored for Violoncello, is best brought out by the

Cornocean (or *Gamba Celeste*), with which the *Tremulant* will be used, as the cello player invariably employs the *vibrato* throughout this number” (p. 35.) When later writing of the *Tremulant*, Dickenson writes that “in spite of all attacks upon it, (the *Tremulant*) has always been in use since Bach’s day, (and) produces an effect which is well liked and which seems to meet a need for relief from straight tone” (p. 51.) He also recommends restraint in overuse. Returning again to orchestral effect, Dickenson advocates combining all strings on the swell with the *Vox Humana* and *Tremulant* (p. 53).

Other Keyboard Instruments

This section includes all manner of keyboard instruments with strings that are articulated by various means of action.

Bach, Carl Philipp Emanuel. *Versuch über die wahre Art das Clavier zu spielen*. Berlin: In verlegung des auctoris, gedruckt bey C.F. Henning, 1753.³⁰

This book about performing on the clavier at the highest level contains a description of *vibrato*, but not in the expected ornamentation section. It is found later under “Performance.” Bach writes “A long, *affettuoso* tone is performed with a *vibrato*. The finger that depresses and holds the key is gently shaken... The best effect is achieved when the finger withholds its shake until half the value of the note has passed” (p. 156). Bach also

³⁰ Translation from: Carl Philipp Emanuel Bach, and William J. Mitchell, *Essay on the True Art of Playing Keyboard Instruments* (New York: W.W. Norton, 1949).

includes an example of how it is notated, a half note with dots and a slur over top of it.

"Interesting Feature of the Season is to be found in the Striking Popularity of the Pre-Classical Art and its Method of Expression," *New York Times*, 8 December 1907, X2.

This article focuses on the admiration of older instruments in concert society. The author describes the clavichord's ability to perform *vibrato* by a player who "by a delicate variation of pressure on the key, obtains the subtle effect of *vibrato* that they use upon the violin: and, indeed, the clavichord is in almost as immediate contact with his means of expression, as little interfered with by mechanism as is the violinist" (p. X2).

Watson, Jo-Shipley. "Arnold Dolmetsch at work on the New Old Clavichords," *The Musician* Vol. 27, no. 1 (January 1912): p. 11.

In a subsection labeled "Concerning the Clavichord" Watson compares the clavichord to the modern piano, noting that "If the pressure on the key is increased, a slight sharpening of pitch and swelling of tone are perceived; if the key is rocked by the finger, the rapid alternate sharpening and flattening of pitch produces a very effective *vibrato*" (p. 11). Watson asserts that it is the alteration of pitch that is the most valuable method of achieving expression in music and "the chief distinction between the living tones of the voice or violin, and the mechanical, fixed tone of the piano or organ." A paragraph later, Watson suggests practice upon a clavichord of Bach's *Well-tempered Clavichord* as means to explore

further the possibilities. After mastering the softest tone, Watson then advises that “The swelling of the notes and the *vibrato* should then be attempted, taking care to quite relax the pressure at the end of each note, or each pulsation in the *vibrato*, so that the key may come up as high as possible without allowing the tangent to leave the strings. If the direction is followed the clavichord will not sound out of tune, even when the notes are swelled to the limit of their endurance.”

Herbert, Victor, Arthur Elson, and Louis Charles Elson. *The World's Best Music*. New York: The University Society, Inc, 1913.

In describing the clavichord and an explanation of the coloristic possibilities, Herbert writes on page 103 that “The clavichord had one possibility that has not been equaled, except in the most modern electric instruments; its tone could be made to swell and subside. This was done by increasing and diminishing the pressure on the key while holding a note, and it caused actual swells and subsidences, as well as slight pitch alterations similar to our violin *vibrato*. Beethoven tried to imitate this effect on the piano by alternately using and releasing the soft pedal, but he did not succeed.”

Cooke, James Francis. *Great Pianists on Piano Playing: Study Talks with Foremost Virtuosos*. Philadelphia: Theo. Presser Co, 1917.

In a section pertaining to embellishments and older instruments, Cooke writes that the correct interpretation of period ornamentation is important. Cook describes a way of moving a finger from side to side on a key in

eighteenth century keyboard instruments after it had struck a note. “Thus they produced a sort of *vibrato*, not unlike that of which we have received an overdose in recent years from violinists and ‘cellists. This *vibrato* (German *Bebung*) was marked like our modern shake (p. 164). An example is provided, utilizing the Squiggle as an indication of *vibrato*. Cook then concludes “but if we interpret it as a ‘shake’ we commit a grave error.”

Hayes, Gerald R. *Musical Instruments and Their Music, 1500-1750*. London: Oxford University Press, H. Milford, 1928.

In an article about the clavichord, Hayes compares the modern piano to the older instrument. In citing Bach’s *Forty-eight Preludes and Fugues* he suggests that nothing can compare to hearing the composition on the instrument they were intended for. He asserts that over the piano, the clavichord possesses “a new world of colour and tone... [that] the player has a direct control over the pitch of the note produced, so that a ‘sympathetic’ quality, comparable to the *vibrato* of a violin, can be produced at will” (p. 15).

"Novelties in Paris," *New York Times*, 24 March 1929, p. 137.

Under the subsection title “New Dolmetsch Harpischord” is an article about Rudolph Dolmetsch’s recent performance at Oxford. The article reports that the instrument “enables the performers to obtain a *vibrato* effect on sustained notes closely resembling the *vibrato* of a banjo. Mr.

Dolmetsch availed himself of the privilege pretty freely, if generally with discretion; but one dreads the thought of the abuse to which it might be subjected at the hands of an unscrupulous, indiscriminating performer” (p. 137.)

"Music," *New York Times*, 11 April 1934, p. 24.

Under the title “Bach on Clavichord” is a review of Leonard Kirkpatrick performing Bach’s *French Suite in G major*, six preludes and fugues from *The Well Tempered Klavier*, *French Suite in E major* and the *Partita in B flat*. The writer notes that “His playing not only revealed to the uninitiated what clavichord music can be in the hands of a master; it affords an opportunity such as few artists could equal to hear Bach performed on one of the instruments for which he wrote” (p. 24). He continues on to discuss Kirkpatrick’s technique commenting: “the remarkable about his playing after one accustoms one’s ears to the Lilliputian dynamics of the clavichord, is the illusion of great range in volume he establishes through the complete identification of himself with his subject and the variations in tone color and tonal power, hence emotional vividness, that his subtlety achieves, from the tiny, exquisite *vibrato* of the saraband’s slow melody to the brilliant friskiness of a *gigue*.”

Guitar/Banjo/Lute

This section includes all relatives of instruments that sound primarily through finger plucking or use of a pick or similar device.

Venegas de Henestrosa, Luis, et al. *Libro de cifra nueva. Para tecla, y vihuela, en el qual se ensena brevemente cantar canto ilano, y canto de organo, y algunos avisos para contra punto*. Alcala: Brocar, 1557.³¹

This tutor by Henestrosa describes a vibrato motion in which you wriggle or shake “the finger on the string and fret you wish to play.”

Vallet, Nicolas. *Pieté royalle, c'est a dire: Les cent cinquante Psaumes de David, accomodez pour iouer sur le luth, d'une nouvelle et tres facile mode, non encor veue ny ouye par cy devant*. Amsterdam: On les vend chez l'auteur demeurant sur le Lely-Graft, à l'enseigne de la Bastille, 1620.³²

This book of the 150 Psalms of David contains arrangements for the lute.

Vibrato is notated in the music by means of a double “X” in which one is placed slightly offset from the other.

Foscarini, Giovanni Paolo. *I quattro libri della chitarra spagnola nelli quali si contengono tutte le sonate ordinarie: semplici & passeggiate, con una nuoua inuentione di passacalli spagnoli uariati, ciacone, follie, zarabande, arie diuerse, toccate musicali, balletti, corrēti, volte, gagliarde, alemande, con alcune sonate picicate al modo dl [sic] leuto con le sue regole per imparare à sonarle facilissimamente. Autore l'Academico Caliginoso detto il Furioso*. Nouamente composto e datto in luce. 1630.³³

³¹ Sourced from Diana Poulto *A Tutor for the Renaissance Lute: For the Complete Beginner to the Advanced Student* (London: Schott, 1991).

³² Ibid.

³³ James Tyler, *The Early Guitar: A History and Handbook* (London: Music Dept., Oxford University Press, 1980) 98.

Foscarini's work on Spanish Guitar playing uses the double "X" notation also found in Valle's *Pieté royalle... of 1620*. When this sign is found "You should separate the (thumb of the left) hand from the guitar, putting the most convenient finger at the number show, and shake the hand back and forth. This will produce, as far as possible, a sustaining, bit by bit, of the sound of the string"(p. f.3)

Corbetta, Francesco. *La guitarre royalle dediée au Roy de la Grande Bretagne. À Paris: chez le dit Bonneüil, rüe au Lard proche la Boucherie de Beauuais au dessus de la Halle aux Cuirs, 1671.*³⁴

The double "X" is described by Corbetta in his Guitar treatise as "like a double *tremolo*."Corbetta describes it being made by fixing one finger on a note and shaking the left hand.

Guerau, Francisco. *Poema Harmonico Compuesto De Varias Cifras. Por El Temple De La Guitarra Española.* Madrid: Manuel Ruiz de Murga, 1694.³⁵

In this Guitar method of 1694, Guerau uses the double "X" notation also found in Valle's *Pieté royalle... of 1620*. Guerau states that the double "X" is notation for the *tremblor*. This is done by "plucking the string with the right and then moving the left hand from side to side without lifting from the fret."

³⁴ Ibid.

³⁵ Ibid.

Aguado, Dionisio. *Nuevo método para guitarra*. Madrid: Fuentes, 1843.

This Spanish guitar method contains a lesson about *Trémulo*, which is described as a way to prolong the sound wiggling the finger point that contacts the string on the left hand (p. 44.) Also contains an example indicating where to employ the *Trémulo* via a squiggle.

Holland, Justin. *Holland's Comprehensive Method for the Guitar: Containing the Elements of Music, Full Illustrations of the Fingering for Both Hands, Complete Instructions for the Acquisition of Knowledge of Time and of the Instrument : with All the Necessary Lessons and Examples to Facilitate Their Application, Also a Choice Collection of Music Suitable for Practice and the Acquisition of a High Order of Execution*. Boston: Oliver Ditson, 1888.

Holland dedicates almost an entire page to what he calls “The Vibration, or The *Temolo*” (p. 76). Indicated by the Squiggle, Holland states that it “is well worthy the attention of every guitarist.” He continues to describe the movements required by the left hand to create it. He also writes that it may be made on single or double notes. “When judiciously introduced and well performed its effects are very beautiful.”

“Banjo, Guitar, and Mandolin Club’s Concert,” *Auckland Star*, 15 December 1896, p. 2.

A review of the club’s third concert notes general impressions of all the performing ensembles. The writer states that some of the slow Scotch airs heard “such as ‘Robin Adair,’ seemed unsuitable to the character of the instruments, the incessant *vibrato* rather spoiling the effect” (p. 2)

Bickford, Zarh Myron. *The Bickford Mandolin Method*. New York: Carl Fischer, 1920.

Under a section titled “The *Vibrato*,” Bickford defines the *vibrato* as “a wavy or vibrating tone, caused by oscillating a finger more or less rapidly on the string” (p. 13). He continues that it is the least effective on mandolin of all the other string instruments, and difficult to make noticeable. But, it “can be done to a slight degree, when the *tremolo* is not used, by allowing a note to sound after the stroke, in the meantime oscillating the finger lengthwise along the fingerboard.”

"Music," *New York Times*, 9 January 1928, p. 30.

This article is of a review of Spanish Guitarist Andres Segovia by Olin Downes. Downes writes of Segovia’s appearance and his poetic like performance. “When he plays a melody of Bach or Haydn he phrases it, slurring certain notes, detaching the others, according to the directions of the composer. He has, of course, the *vibrato* and the *portamento* to help him in expression. He is remarkable, almost unique, for not abusing these effects” (p. 30).

"Segovia, Guitarist, in Farewell Recital," *New York Times*, Mar 07, 1930, p. 27.

This review notes Andres Segovia performing Turina’s *Fandango*, Toroba’s *Allegretto*, an allemande written for the lute by Bach, a minuet by Haydn and other works by De Falla, Albeniz, Grandos and Sor. The article states that Segovia employed “unusual imitation of a distant drum

by striking the body of the guitar behind the bridge in the ‘Fandango’ and the echoes which the player obtained by means of an exquisite *vibrato* and flageolet tones were among some of the many beautiful effects” (p. 27).

"Segovia, Guitarist, in First Recital," *New York Times*, 23 January 1936, p. 25.

This article is a review by Olin Downes of Spanish guitarist Andres Segovia. Downes describes Segovia as one who “makes this instrument not only one of pulsatile effects, but of song. He uses glide from tone to tone rarely, and the *vibrato* with the same discretion and infallible taste” (p. 25).

Singing and Instrumental Vibrato

This section contains works in which *vibrato* in singing and instrumental techniques are discussed.

Bayly, Anselm. *A Practical Treatise on Singing and Playing with Just a Passion and Real Elegance*. London: Printed for J. Ridley, in St. James'-Street, 1771.

Bayly mentions the singing of a *close shake* (also called *mezzo trillo* or *triletta*) as being brisk and lively (p. 52) and being one of the two necessary types of shake for use in the church (out of eight types of shakes he previously discussed.) Later, Bayly states “The manner of waving or vibrating on a single tone with the voice, like as with the violin, especially on a semi-breve, minim, and a final note, hath often good effect; but great care must be taken to do it discreetly and without any trembling” (p. 64.)

Walker, Francis. *Letters of a Baritone*. New York: Scribner, 1895.

This book is a collection of letters from Walker, sent to his sister during his time studying singing in Florence. He recounts that during one lesson, his voice “while upon a sustained note, produced the *vibrato*. The maestro instantly remarked it, and said it could only come with the voice free from all obstruction in the throat and warned me against yielding to the temptation to use it constantly” (p. 161.) Walker continues comparing it to *vibrato* on the violin produced with the left hand “to make the throbbing sound string-players so delight in... which seems to rescue the tone from lifelessness” (p. 162.) He then describes the difference between the vocal *tremolo* and *vibrato*. Walker writes: “string players use the *vibrato* quite as immoderately as singers do, yet how rarely they are criticized for it” (p. 163.) In questioning string players about usage, he found that “some have so long done it as a matter of course that its use was habitual and unconscious, and they were rather surprised to note that their fingers were constantly in vibration upon the strings.”

“Herbert Wilbur Greene,” *Werner’s Magazine* Vol. 22, no. 6 (February 1899): 398.

In a discussion about the tenor Herbert Wilbur Greene, the writer discusses a recent recital of Green’s students. “It just happened that all but one of the pupils heard on this occasion had an acute attack of *vibrato*. It was not the waviness of sound that comes when the wrist of the violinist shakes and your soul shakes with it, and it was not the *tremolo* of fatigue and extreme exhaustion, for all the girls looked well-nourished and fresh

as pinks. It was a crude joggle that they had, that somehow suggested a milk-shake machine or a fanning-mill” (p. 398). Green states that the students had not always studied with him and that he was working on removing the “objectionable joggle.”

Fisher, Henry. *Psychology for Music Teachers. The Laws of Thought Applied to Sounds and Their Symbols, with Other Relevant Matter*. London: Curwen, 1907.

In a section discussing *vibrato*, Fisher writes that for vocalists “there is one favorite device which appears as if devised to promote singing out of tune. This is the employment of that kind of tremulous tone which is known as the *vibrato*” (p. 125.) Fisher notes that while some “use it with charming effect,” the result is usually bad intonation, with violinists often agreeing. He continues writing “there is no class of musicians who have a more finely cultivated ear than a thoroughly competent violinist” and they and cellist nearly always use *vibrato*. Fisher suggests, “It was, in fact, the charm of this device which impelled vocalists to adopt the same plan.” He discusses the mechanics of *vibrato* production on the violin, observing that the oscillation of sound created is above and below the pitch.

Mills, William C. “Musical Items,” *Arizona Republican*, 15 December 1918, p. A8.

This article covers several items including a rehearsal of a community chorus and orchestra and the formation of a light opera company. In speaking about musical refinement, Mills comments on the difference

between European and American tastes stating, “Excessive *vibrato* on the violin or cello makes Americans smile. A *tremolo* on the part of a singer makes them swear.”

"Byzantine Group in Concert here." *New York Times*, Oct 28, 1933.

This article is a concert review of a Greek Byzantine Vocal quintet. The reviewer notes that at times their signing was off pitch and in a description of their tone states: “One wanted more of the flat timbre of the clarinet, less of the rich *vibrato* of the violin, to draw the polyphony in sharper, cleaner lines” (p. 20.)

Theremin

This section includes writings about the Theremin or “ether wave.”

"Ether Wave Music Amazes Savants," *New York Times*, 2 October 1927, p. E1.

This review of a Berlin concert presented by Leon Theremin contains a description of the Theremin and a report about his playing. “As he shook his right hand he obtained the *vibrato* of the violin” (p. E1.)

"Ether Wave used," *New York Times*, 25 December 1927, p. X8.

This article is a report of a presentation by Professor Theremin in Paris. The reviewer praises the invention and writes: “... the inventor is at present concerned with imitating well-known instruments, giving the *vibrato* effect of a violin or ‘cello by a slight motion of hand ...”(p. X8.)

"Ether Concert Stirs Musical Stars here," *New York Times*, 25 January 1928, p. 1.

This review is of a concert on January 5th by Leon Theremin performing Schubert's *Ave Maria*, Scriabine's *Etude* and unnamed work by Rubenstein, and several lighter works. Notes "Musical Stars" in attendance including Rachmaninoff, Kreisler and Toscanini. The reviewer notes several observations during the performance regarding *vibrato*. "The right hand was made to tremble, producing the *vibrato* effect" (p. 1). Professor Theremin is quoted as saying "The 'Soul' was put into the music by the vibrating right hand." Also performing on the concert was Mr. Goldberg who "had mastered the *vibrato* effect to an even greater degree than had the inventor of the instrument." Goldberg was also commended in displaying "great skill in imitation of the human voice."

"Theremin Opens a Musical Vista," *New York Times*, 29 January 1928, p. 128.

This article is a review of a January 5th concert in which Leon Theremin performed. The tone of the Theremin is criticized as being essentially static and not expressive. The reviewer notes that the hand vibrates and confers a degree of warmth and color to the sound, "But this is after all, a subterfuge-this vibrating of the hand. The tone of an oboe is not 'wobbled' by the performer, but has in itself esthetic and emotional distinctions. The tone of a violin is frequently enriched by use of the *vibrato*, but the tone without *vibrato* of the finger of the violinist's left hand is still warm, colorful and humanly expressive" (p. 128).

"Music from the Air with a Wave of the Hand," *New York Times*, Jan 29 1928, p. 128.

This article contains a description of Leon Theremin's electronic instrument and descriptions of how it works. The article notes: "Theremin moves his hand toward the rod. A 'cello-like note is heard... The familiar *vibrato* of the violinist he produces by shaking his hand" (p. 128).

"Music," *New York Times*, 31 October 1934, p. 31.

A performance by Clara Rockmore is reviewed under the subtitle "Theremin Recital." The writer notes: "all pieces were performed with an excessive *vibrato* that grew quickly irritating when coupled with frequent false intonation" (p. 31).

Dictionaries/Books/Treatises/Miscellaneous

This section includes concert reviews, advertisements, judging notes, newspaper opinion editorials or any other writings not falling into any of the previously listed categories. This section also covers any instruments not covered under any previous section.

Agricola, Martin. *Musica instrumētalis deudsch, ynn welcher begriffen ist, wie man nach dem Gesange auff mancherley Pfeiffen lernen sol, auch wie auff die Orgel, Harffen, Lauten, Geigen, vnd allerley Instrument vnd Seytenspiel, nach der rechtgegründten Tabelthur sey abzusetzen. Colophon: Gedrückt zu Wittemberg, 1529.*³⁶

³⁶ Translation from: Martin Agricola and William E. Hettrick. *The "Musica instrumentalis deudsch" of Martin Agricola: a treatise on musical instruments, 1529 and 1545* (Cambridge: Cambridge University Press, 1994).

Agricola's treatise of 1529 covers a wide range of descriptions of musical instruments and observations he made during his travels. In chapter 1, Agricola discusses the Swiss or transverse flute (*Querpfaffen*). He lists several ways of blowing air into the instrument, including a quivering breath, which is considered to be part of the fundamental and basic to the instrument. Agricola also states that the quivering breath "graces the music very much on all wind instruments that one plays" (p. 12). In a subsequent edition of 1545, Agricola revisits the quivering breath stating "it is desirable if you blow with quivering breath (*mit zitternden wind*), for it will be observed here, just as it will be taught below in the method of the Polish fiddle, that the quivering decorates the melody. It would be an important ornament on organs, although it has seldom been employed up to now in German lands... God has surely therefore not given this to us for us to keep it to ourselves, but rather to share with our neighbours" (p. 86). The second chapter of the 1545 edition describes the Polish fiddle, and how it is played using the nails of the finger. Agricola states that this method is more favorable over playing the fiddle with the softer part of the finger, that the sound is more refined and pure. He also notes "One also produces vibrato freely to make the melody sound sweeter than it would be on the others [otherwise]" (p. 103.)

Cardano, Gerolamo. *De Musica*, 1546 published as *Hieronymi Cardani Mediolensis opera omnia*, Sponius, Lyons, 1663.³⁷

In this collection of writings about musical theory and instrument descriptions, Cardano describes in chapter 9 about “recorders, their shape and secrets.” Cardano notes “it is necessary to consider that a *trill* (*vox tremula*) is used very often with a higher or lower diesis³⁸ or semitone. This is a twofold action, with a *tremulous* quality in the breath and with a trembling movement of the finger... Therefore, when the trembling movement is made on a semitone or even on a whole tone by opening a hole very lightly, a sound running back and forth through dieses is created, a sound than which nothing finer, nothing sweeter, nothing more pleasant can be imagined.” Chapter 35 pertains to the “Rules of Artistic Music.” In them, Cardano outlines five rules, which are meant to augment the value of a melody “beyond measure.” The third pertains to the addition of dieses and commas to the melody. Chapter 43 deals with the lyre and cithara, and states “on a lira not only dieses but also commas are created beautifully with *vibrato* (*tremulis digitis*).” The next chapter deals with examining the lira, and states that it is the most elegant of all instruments for several reasons, including “*vibrato* tones (*voces tremulae*) that are intermingled with others that are without *vibrato*.”

³⁷ Translation from: Girolamo Cardano and Clement A. Miller. *Writings on music* (Rome: American Institute of Musicology, 1973).

³⁸ Diesis = a microtone.

Praetorius, Michael. *Syntagmatis musici*, Wolffebüttel: Holwein. 1619.³⁹

This treatise by Praetorius covers a wide range of musical topics and was divided into three books. The second book focuses on musical instruments common during his time. Chapter 31 pertains to the Cittern. Praetorius describes his encounter with a performer of the instrument, and how he played “divisions with the greatest precision, by the use of a *tremolo* technique” (p. 61). He notes that some famous lutenists now use the same technique. Chapter 44 discusses the Geigenwerck, a bowed keyboard instrument. Praetorius writes: “the player can communicate his feelings, whether sad or joyful, according to the degree of pressure that he exerts on the keys... Whereas a special stop is used for the production of a *tremolo* effect on the organ, the Geigenwerck has no need for a stop-the hand itself, trembling up and down on the keys, can supply a *tremolo* at any speed desired” (p. 71).

Mace, Thomas. *Musick's Monument, or, A Remembrancer of the Best Practical Musick, Both Divine and Civil, That Has Ever Been Known to Have Been in the World Divided into Three Parts*. London: Printed by T. Ratcliffe and N. Thompson for the author, and are to be sold by himself ... and by John Carr, 1676.⁴⁰

³⁹ Translation from: Michael Praetorius and David Z. Crookes, *Syntagma Musicum. Parts I and II II, De Organographia* (Oxford [Oxfordshire]: Clarendon Press, 1986).

⁴⁰ From a modern reprint: Thomas Mace, *Musick's monument. Vol. I* (Paris: Éditions du Centre national de la recherche scientifique, 1958).

Chapter 22 of Mace's treatise contains information regarding the Graces found upon the Lute, including one he calls the *Sting*. Described as "neat and pretty," the sting is performed on a stopped note of "some duration." This is described as when a performer waves their hand downward and upward towards the nut and bridge. Mace also acknowledges that this grace though is not "modish"⁴¹ in these days" (p. 109). Later in dealing with music in general, Mace discusses the Viol, and that it is an instrument "very much in use"(p. 247) and references Christopher Simpson's treatise on viol playing.⁴²

Brossard, Sébastien de, James Grassineau, and John Christopher Pepusch. *A Musical Dictionary; Being a Collection of Terms and Characters, As Well Ancient As Modern; Including the Historical, Theoretical, and Practical Parts of Music*. London: J. Wilcox, 1740.

The indication of a *Tremolo* is "to intimate to the instrumental performers of a piece, that they make several notes on the same degree or pitch of tune, with one draw of the bow, to imitate the shaking on the Organ. Tho' this is often placed in the vocal parts of a song. We have examples of both⁴³ in Mr. Lully's opera if *Isis*.

Apollo's Cabinet: or the Muses Delight An Accurate Collection of English and Italian Songs, Cantatas and Duetts, Set to Music for the Harpsichord, Violin, German-Flute, &C. With Twelve Duettos for Two French Horns,

⁴¹ Fashionable

⁴² That being Simpson's *The Division-Viol* of 1665.

⁴³ Those being of the bowed *tremolo/vibrato* and the vocal *tremolo*.

Composed by Mr. Charles. And Instructions for the Voice, Violin ... Also, a Compleat Musical Dictionary, and Several Hundred English, Irish and Scots Songs, Without the Music. Liverpool: Printed by John Sadler, 1756.

This collection of musical information includes a reprint of Geminiani's *Treatise of Good Taste in the Art of Musick*, including information regarding the *close shake*. Under a section pertaining to the German-Flute, a subsection titled "Of Cadences, Shakes, Softenings, &c." is listed a method of playing a softening, which is to perform a shake or beating motion with the finger on the edge of a hole (p. 15). For the lowest pitch on the instrument, it is recommended that to soften it, the player shake the flute itself. The section concludes with advice about when to use such graces: "Tis scarce possible to lay down any rule to shew on what notes these graces may, or may not, be made; but, in general, long notes, as semibreves, minims and pointed crotchets are softened.... But the best method of teaching the ear (which in this case is the best judge) what notes these graces most agree with, is to play only, for some time, such pieces of music as they are marked in, which is never done but in those pieces which masters set for their scholars, as in the following example" (p. 16-17.) An illustration of three graces is then displayed, including a modified version of the Squiggle indicating a softening. The example and much of the text is a reprint of Prelleur's *The Modern Musick-Master* of 1731.

Bemetzrieder, Anton. *A Complete Treatise on Music. The Precepts and Examples in Two Separate Books. The Book of Precepts*. London: Printed for the subscribers to Mr. Bemetzrieder's new works, by Thomas Rickaby. 1800.

This encompassing book abstains from attempting to explain many ornaments. *Trills* are briefly described but Bemetzrieder explains “ornamental steps, bindings, vibrations and shakes; which are better explained by the voice or fingers of a master, than by an article of a book” (p. 15). This point is again reiterated while discussing music making: “The expression of a passage, a phrase, or a single note, is indicated by the words: *Piano, Mezzo, Forte, Crescendo, Sforzato*. . . . *Perdendosi, mancando, tremendo, Morendo, &c*. Here again the example of a master will better explain these foreign words, than the best dictionary could do.”

Busby, Thomas. *A Complete Dictionary of Music: To Which Is Prefixed, a Familiar Introduction to the First Principles of That Science*. London: Printed for R. Phillips by B. M'Millan, 1811.

The term *Tremolo* is listed as relating to *Tremolante*, or *Tremente*, and defined as “A word intimating, that the notes are to be drawn out with a *tremulous* motion, in imitation of the beatings of an organ.” *Tremando* is listed as “A word denoting, that the passage over which it is placed is to be performed in a tremulating manner.”

Busby, Thomas, and Samuel Arnold. *A Dictionary of Music, Theoretical and Practical. To Which Is Prefixed, a Familiar Introduction to the First Principles of That Science*. London: R. Phillips, 1817.

In addition to containing the same definitions for the terms *Tremolo* and *Tremando*, page 332 describes the term *Vibration* as “That *tremulous* motion of any sonorous body by which sound is produced. In a second paragraph⁴⁴, it continues: “The word *Vibration* is also applied to a certain *tremulous* motion given to a note; as when the finger of the flutist *tremulates* over the hole, without coming into contact with the instrument.”

Busby, Thomas, and Samuel Arnold. *A Dictionary of Music, Theoretical and Practical. To Which Is Prefixed, a Familiar Introduction to the First Principles of That Science*. London: Printed for Sir Richard Phillips and Co, 1823.

The definitions pertaining to the topic of *vibrato* are the same in this edition as those found in the 1817 publication.

Danneley, John Feltham. *An Encyclopaedia, or Dictionary of Music ... With Upwards of Two Hundred Engraved Examples, the Whole Compiled from the Most Celebrated Foreign and English Authorities, Interspersed with Observations Critical and Explanatory*. London: Printed for the editor, and pub. by Preston, 1825.

In this English dictionary, *Ondeggiamento* is defined as “a floating or waving species of performance, called also *tremolo*. However, as with several dictionaries, definitions do not always agree with each other. The definition of *Tremolo* more closely resembles that of opera accompaniment than *vibrato*, noting that it is “made by repeating two or

⁴⁴ This second paragraph was not present in the 1811 edition of the dictionary.

more notes of a harmony in quick succession.” The terms *Bebung* and *Tremando* also point to *tremolo* in their succinct definitions. The *Tremblement* is defined as an Italian term meaning *tremolo*, and describes the mechanical device in an organ, which “gives to the sound of an organ a trembling.” The Tea-Kettle Shake is noted as “a term of derision applied to a succession or repetition of the same note, in lieu of a shake neatly formed of two distinct notes. See *Chevrotter*.” And following the instructions, the listing for *Chevrotter* explains “in lieu of neatly shaking alternately the two notes which form the cadence, or shake, (a singer) repeats only one note with precipitation, as detached semiquavers.”

Valentine, Thomas. *A Dictionary of Terms Used in Music*. London: Published by S. Chappell, 1833.

Tremando or *Tremente* is defined as “A kind of shake of the whole chord” (p. 56). Directly below, *Tremolo* is described only as “tremulous.”

Busby, Thomas, and J. A. Hamilton. *A Dictionary of Three Thousand Musical Terms*. 1840.

Similar to his previous dictionaries published under another title, this book contains a few additions and subtractions. *Molto Vibrato* is defined as “Very bold and triumphant. See *Vibrato*” (p. 115). Following that course, *Vibrato* is then defined as “A term used in Italian opera, to signify that at the note, or passage, to which it refers, the voice is to be thrown out, in a bold, heroic style” (p. 182). The definition of *Vibration* is similar in

meaning but lists organ and string vibration as examples.⁴⁵ *Tremando* is described as “In a tremulating manner” (p. 174). Sharing a close definition, *Tremolo* is listed as “A word by which the composer understand that the notes are to be drawn out and delivered with a *tremulous* emotion.” *Tremolando* suggests a wavering or *tremulous* style of performance.

Moore, John Weeks. *Complete Encyclopædia of Music: Elementary, Technical, Historical, Biographical, Vocal, and Instrumental*. Boston: J.P. Jewett, 1854.

Moore’s encyclopedia of 1854 lists multiple definitions of the term *Vibration*, beginning with a “*tremulous* motion of any sonorous body by which sound is produced” (p. 951). It is also noted as the “quick repetition of an emphasis upon the same note, three or four, or perhaps more, times, according to the length of the note and the fancy of the singer.” Moore notes that its overuse becomes ludicrous, but occasionally used it “produces a striking effect.” He indicates that the Italians call this *vibrato*. Moore later writes the definition of *Vibrato* as “with a strong, vibrating quality of tone.” *Vibratissimo* is listed as its superlative. *Trememando* is described as being trembling, and indicates a passage “is to be performed in a *tremulous* manner” (p. 930.) *Tremolo*, *Tremolante* and *Tremente* share

⁴⁵ The paragraph regarding a *tremulous* motion of a flute player’s fingers is omitted in this definition.

a definition stating they imitate the beatings of an organ, being performed in a *tremulous* manner.

The Musical World, Vol 51, no. 28 (July 12, 1873): p. 474.

Under a subheading of “The Tremolo” this London writer states the *Tremolo* most likely originated in “the natural and unaffected pathos of a singer excited by intense dramatic feeling...” (p. 474). The article’s author continues to speak against the use of the *tremolo* in singing and concludes stating “Your street cornet player is great in the *tremolo*; sometimes we fairly suspect that extra deep potations are its primary cause, rather than a question of artistic fitness. But the abuse of the *tremolo* is not confined to soloists. The disease has spread over the whole orchestra, so that it may now be seen and heard shivering all together to such an extent the uninitiated might fancy the whole body to be stricken with a palsy or St. Vitus dance.”

“The ‘Vibrato’ (alias ‘Tremolo,’ alias ‘Wobble),” *Dwight’s Journal of Music* Vol 35, no. 11 (September 4 1875): p. 84.

This Boston article is a reprint of a letter,⁴⁶ possibly by William H. Cummings⁴⁷ to the London Musical Standard about “evil practice” of overuse of *vibrato*. The letter mainly pertains to vocal use but mentions in

⁴⁶ Very similar in wording and tone to “The Tremolo” *The Musical World*, Vol 51 No. 28, London July 12, 1873.

⁴⁷ It is stated in the article that it is written by William H. Cummings, but with a question mark after his name, denoting that the article author is unsure.

a few sentences its use in the instrumental world. “Solo players on the violin have not been permitted its exclusive use, but all the members of the stringed family freely employ it. The various kinds of wind instruments are following suit; from the gentle flute to the brazen ophicleide, all seem afflicted with the senseless wobble. The street cornet player is great in the *tremolo*: as to the precise kind of taste which causes its employment here, we care not to enquire. Even the majestic organ has become addicted to vice: mechanical *tremulants*, and registers of ‘*Unda Maris*’ and *Voix celeste*’ ...” (p. 84).

Ludden, W. *Pronouncing Musical Dictionary of Technical Words, Phrases and Abbreviations: Including Definitions of Musical Terms Used by the Ancient Hebrews, Together with Those Found in Greek and Roman Literature; a Description of the Various Kinds of Instruments, Both Ancient and Modern*. New York: J.L. Peters, 1875.

Ludden’s dictionary contains more examples of mixed definitions and unclear meaning across a wide spectrum of related terms. *Tremolando*, *Tremolate*, *Tremolo* and *Tremulo* all share definitions all pointing towards the reiteration of chords as in opera accompaniment, including *Trembling* and quivering. (p. 202). The French term *Trembler* is defined as to tremble, to shake while the *Tremblotant* is listed as quivering. *Trembloter* combines elements of the previous two terms by being defined as To quiver, to shake. The *Tremolant* and *Tremulant* definitions relate the sound of the waving, trembling or undulating organ stop to the *vibrato* in singing and the *Tremolando* in violin playing. *Vibrato* and *Vibrate* share

the same definition on page 210 of possessing “A strong, vibrating full quality of tone; resonant.” *Vibratissimo* is defined as “extremely vibrating and *tremulous*” while *Vibrazione* is defined as “extremely rapid.” *Bebung* is identified as a shaking or a vibration, and also a German organ stop of the same name. *Balancement* is defined as “Quivering motion; a *tremolo*.”

Grove, George. *A Dictionary of Music and Musicians (A.D. 1450-1880)*. London: Macmillan, 1879.

Bebung is defined as a pulsation or trembling effect in vocal or instrumental music, “for the sake of expression” (p. 160). It continues to describe how it is produced on stringed instruments by way of oscillating finger movement and “on wind instruments and singing by the management of the breath.” The second paragraph links it to clavichord performance as well. Further on, it states that *Bebung* was seldom indicated, except at times by the word *tremolo*. The entry also cites Marpurg’s *Principes du Clavecin* as a source for graphical notation, that being a note with dots and a slur over the top, with the dots indicating repetitions of sound. *Bebung* is found again under the definition of *Agremens* (p. 57). Here another graphical representation is presented similar to the previous one, but this time referencing Emanuel Bach. In a footnote, *Bebung* is equated to the French term “*balancement*” and the Italian “*tremolo*.”

The Musical Standard Vol 17 Third Series, no. 793 (October 11, 1879): p. 225.

Under a heading of “Musical Intelligence” and subheading of “Crystal Palace Concerts” is this review of a recital by violinist Maurice Dengremont. The writer declares the performance “a veritable triumph” (p. 225) and was applauded greatly. The reviewer though advises caution “to reserve the *vibrato* for special effects” as they have previously done with a soprano identified as Miss Thursby. Digressing on Miss Thursby’s performance patterns, the writer cites regret that “ she should choose always to put the *vibrato* on to any note on which it is possible to dwell.” The article then notes that De Beriot’s *Ecole Transcendentale* and Spohr’s *Violonschule* both suggest limited use in trembling.

“A New Wind Instrument,” *The Daily Indianian*, 1 June 1882, p. 3.

This article is a reprinted story from the London Times about an instrument invented by John Farmer. The wind instrument produces sound by causing strings to vibrate via a current of air. After discussion about its construction and comparisons to organs and harmoniums, a short review of it being demonstrated notes “the instrument was not in perfect tune, and owing to the defection action of the ‘swells,’ an unintentional and by no means pleasant *vibrato* was now and then observed” (p. 3).

Niecks, Frederick. *A Concise Dictionary of Musical Terms. To Which Is Prefixed an Introduction to the Elements of Music*. London: Augener & Co, 1884.

Vibrato is described on page 254 as an Italian term meaning *Tremulous*. It continues to state “As a noun this term signifies the manner of plain with a *tremulous* tone (produced by the balancing of a finger on a string) or of singing with a *tremulous* voice. The *vibrato* should be employed sparingly especially that of the voice. In highly emotional passages it is very effective and unobjectionable, but when habitually indulged in it becomes an insupportable abomination.”

"Article 6 -- no Title," *New York Times*, 11 June 1893, p. 18.

Under the introduction “In the Realms of Sound” is a reprint from Macmillan’s Magazine about the esthetics of music. The closing remarks state: “But it was not until the frets were removed from the old viols that an instrument was found which could really reproduce the cadence of human utterance. Thenceforward the wail of suffering, the *portamento* of rising emotion, the *vibrato* of pleading entered into the orchestra and became the primary realities of the world of artificial sound. This is the sense, and this is the only sense in which it is allowable to say that music expresses anything” (p. 18.)

Baker, Theodore. *Dictionary of Musical Terms: Containing Upwards of 9,000 English, French, German, Italian, Latin, and Greek Words and Phrases Used in the Art and Science of Music, Carefully Defined, and with the Accent of the Foreign Words Marked; Preceded by Rules for the Pronunciation of Italian, German and French, with a Suppl. Containing an English-Italian Vocabulary for Composers*. New York: G. Schirmer, 1895.⁴⁸

This dictionary contains several references to *vibrato*. Under Expression, one definition lists “2. The *vibrato* effect on bow-instruments” (p. 68).

The entry on the Klavier (p. 109) mentions an instrument called the *Klavier-Violoncello* invented in 1839. This instrument has the capacity to play with purity of intonation or with the “*vibrato* effect.” The term *Vibrato* (p. 219) is defined as “On bow-instruments, the wavering effect of tone obtained by the rapid oscillation of a finger on the string which it is stopping.” Additionally, *Ondeggiamen'to* and *Ondulation* (p. 136) are described as “undulation.” The definition of *Undulating* (p. 256) links back to *Ondeggiamen'to* with the definition “*Ondeggiante; tremando, tremoloso*. Following the chain, *tremando* is defined as “with a *tremolo*-effect” (p. 207). *Tremolo* itself carries several definitions, the first being in relation to string instruments linking it to *vibrato*: “a quivering, fluttering; comp. *vibrato*.” It also includes the differing definition for its use in singing and in instrumental opera accompaniment. A table of Graces on page 85 demonstrates *Bebung* as a whole note with dots and a long slur over the top.

⁴⁸ The 1897 edition of this dictionary contains similar entries to the ones listed below.

Schuberth, Julius, and H. W. Nicholl. *Complete Musical Dictionary, Containing Definitions of All English and Foreign Musical Terms and Phrases, to Which Is Prefixed a Summary of the Elements of Music*. New York: E. Schuberth & Co. (J.F.H. Meyer), 1895.

Several close terms are found in Schuberth and Nicholl's dictionary.

Beginning on page 117, *Ondeggiamento* is defined as quivering, undulated movement. *Ondeggiante* is similarly listed as undulating, waving.

Onduliren, a German term is "to have a *tremulous* tone in singing, or playing the violin. "Further references to the word *tremulous* are found in the joint definitions of *Tremando*, *Tremolando* and *Tremando* as "quivering, with a *tremulous* movement" (p. 161). *Tremolant* is referenced as an organ stop producing a *Tremolando* effect. *Tremolo* mirrors the description of the operatic style of repeated accompaniment. *Undulazione* is characterizer as a pressure of the finger upon violin strings which produces an expressive *tremulous* tone (p. 165). And the German term *Zitternd* is simply stated as "*tremulous*" (p. 171).

Mathews, W. S. B., and Emil Liebling. *Pronouncing and Defining Dictionary of Music*. Cincinnati: The J. Church Co, 1896.

Mathews' dictionary utilized borrowed definitions from several others.

Vibrato and *Vibrate* are stated to be "A strong, vibrating, full quality of tone; resonant"(p. 231). Definitions for *Tremolo*, *Tremolando*, *Tremolate* *Tremulo* are the same as found in Schuberth and Nicholl's publication of 1895. The same can be stated also for *Ondeggiamento*, *Ondeggiante*, *Ondule*, *Ondullren* and *Tremolant*. *Bebung* is described as "A shaking, a

vibration. On the clavier, a *tremolo* made by vibrating the finger upon the key... Also, a German organ-stop” (pg 59).

Stainer, John, and William Alexander Barrett. *Stainer and Barrett's Dictionary of Musical Terms*. London: Novello and Co, 1898.

Vibrato is characterized as in an opposite to pure notes in this dictionary.

The definition describes it as “A *tremulous* quality of tone, as opposed to a pure equal production” (p. 454). The terms *Trille/Triller/Trillo* references Playford’s work of 1683 stating that “the *trill* is described as a shake upon one note only; it would therefore be similar to the effect called now the *vibrato*” (p. 447). *Bebung* is cited under the entry for

Pianoforte/clavichord. In writing about the clavichord, it states “it is the only keyboard instrument upon which *vibrato*, called in German *Bebung*, is possible. Several terms are defined by their attachment to the *tremolo*, two of those being *Bockstriller* and Balancement. But the dictionary does not contain a definition for the term *Tremolo*. *Onduliren* is defined as “ To make a *tremolo* or produce an undulating tone (p. 326). *Ondule* follows as “undulating” and points to *Ondeggiamento*, which is listed as “with an undulating, or quivering sound; making a *tremolo*. *Chevroter* is defined as “to skip, quiver, to sing with uncertain tone, after the manner of goats *Alla vibrato*” (p. 89).

Krehbiel, Henry Edward. *How to Listen to Music; Hints and Suggestions to Untaught Lovers of the Art*. London: J. Murray, 1902.

In discussing what to listen for in violin playing, Krehbiel defines *vibrato* as “A quivering motion imparted to the fingers of the left hand... [which] produces a tremulousness of tone akin to the *vibrato* of a singer...” (p. 90).

Krehbiel also states this is abused by solo players, but when used appropriately it can evoke “a potent expression of sentimental feeling.

“While discussing the Clavichord, Krehbiel explains the notation of *Bebung* as being a note containing a slur with several dots. He states that the French call this *Balancement*. He describes how to perform it by “gently rocking the hand while the key was down, a *tremulous* motion could be communicated to the string, which not only prolonged the tone appreciably but gave it an expressive effect somewhat analogous to the *vibrato* of a violinist” (p. 169-170).

Elson, Louis Charles. *Elson's Music Dictionary; Containing the Definition and Pronunciation of Such Terms and Signs As Are Used in Modern Music; Together with a List of Foreign Composers and Artists ... and a Short English-Italian Vocabulary of Musical Words and Expressions*. Boston: O. Ditson Company, 1905.

Vibrate and *Vibrato* share a definition consisting of “A strong vibrating, full quality of tone; resonant” (p. 280). Similarly *Vibratissimo* is characterized as extremely vibrating and *tremulous*. *Vibrazione* continues the tremulousness and adds the term *Vibration* to its definition. *Vibrante* picks up on the vibrating and adds “a *tremulous*, quivering touch; full resonance of tone.” The French *Balancement* is described as quivering

motion; a *tremolo*. Page 189 contains an instrumental reference.

Ondeggiamento is defined as “Waving; an undulating, or *tremulous* motion of the sound; also a *close shake* on the violin.” *Ondeggiante* also lists waving, undulating and trembling and *Ondeggiare* as to “wave the voice.” The French term *Ondule* is defined as waving, trembling while the German *Onduliren* is described as “A *tremulous* tone in singing, or in playing the violin, etc.” As in other dictionaries, *Tremolando*, *Tremolate*, *Tremolo* and *Tremulo* share a definition of “Trembling, quivering; a note, or chord reiterated with great rapidity, producing a *tremulous* effect” (p. 269). Directly below, *Tremolant* and *Tremulant* share another definition, that being “An organ stop which gives to the tone a waving, trembling, or undulating effect, resembling the *vibrato* in singing, and the *Tremolando* in violin playing...”

Fowles, Ernest. *Studies in Musical Graces*. London: The Vincent Music Company, Ltd, 1907.

This book is in essence a dictionary of musical terms pertaining to graces only. The *Balancement* is related to the clavichord, and the voice as “the so-called *vibrato*” (p. 139). A diagram on the following page shows an example of how it is notated, that being a note with a slur and several dots. *Beben* refers to quivering while *Bombo* is defined as an old Italian “term for the repletion of a sound. (*tremolo, vibrato.*)” (p. 141). *Bebung* is noted as not appearing before the time of J.S. Bach, and also related to tremolo and *vibrato*. The *Chevroter* is defined as an indication for *vibrato* and for

performing a *Bockstriller* (p. 143). The *close shake* is treated as analogous to *Bebung*, and described as “a 17th century term for *vibrato*.” It is indicated by a dot or by dots placed over the notes affected. The term Open Graces is listed as a 17th century tem, and is different from the close graces “which were akin to *Vibrato* or *Tremolo*” (p. 153). The Squiggle appears in the definition of *Sting* on page 161 and is attributed to lute *vibrato* or *tremolo*. For the definition of *trillo*, the author writes “it is curious to note, that the original meaning of the words *trillo* and *tremolo* was exactly converse of the that ultimately belong to them. The *Tremolo* of the early 17th century was the trill; the *trillo*, the *tremolo* or *Bebung*” (p. 163). *Vibrato* is defined on page 164 as “a term apparently limited to all those graces in which the repetition of the same sound was the main feature. The *Close Shake* of Simpson and the *Bebung* of the time of J.S. Bach are pertinent examples of the *Vibrato*. [Also] A *tremulous* action of the voice much effected by singers.”

Wotton, Tom S. *A Dictionary of Foreign Musical Terms and Handbook of Orchestral Instruments*. Leipzig: Breitkopf & Härtel, 1907.

The French term *Balancement* is described in this dictionary as “An effect obtained on bowed instruments by pressing a finger firmly on a string, and giving the finger a *tremulous* motion producing a species of *vibrato*. A similar effect was formerly obtained on the clavichord. It is called *Bebung...*” (p. 25). The definition of *tremolo* describes the style of operatic accompaniment but also as a stop on the organ “which produces a

tremulous effect” (p. 203). *Vibrato* is defined as relating to both voices and instruments “signifying attacking the notes vigorously with a certain ringing *tremulousness*” (p. 214). The German term *Vibriieren* is listed as “To vibrate. *In dem Streichquartett mehr vibrieren lassen als tremolieren*, in the string-quartet more a vibrato than a *tremolo*.” Interestingly, under the definition of *signe* (sign), The author states that a list below includes the main signs used in music. “A dot above or below a note, signifying staccato spiccato; *vibrato*; sforzato to (obsolete)⁴⁹” (p. 474).

Hubbard, W. L., George Whitfield Andrews, Edward Dickinson, Arthur Foote, Janet M. Green, Josephine Thrall, and Emil Liebling. *The American History and Encyclopedia of Music*. Toledo: I. Squire, 1908.

This work defines *Vibrato* as resonant and *tremulous*, standing in opposition from a pure, even tone “but not the same as a *tremolo*” (p. 559). It includes a description of how to obtain it when singing or when playing an instrument (through oscillation of the finger) causing the pitch to be altered almost imperceptibly. The entry states that it is comparable to the French term *Balancement*, and is indicated with an accent over the note, shown in a drawing. *Vibrato* molto is defined as being very resonant or *tremulous* and is “stronger than *Vibratissimo*.” Undulation is related to *vibrato* by way of definition. It is listed as being produced by oscillating fingers on a string instrument, which produce a “*tremulous*, wavy tone” (p. 551). The final remark on Undulation refers the reader to also see *Vibrato*.

⁴⁹ It is unknown if and what term occupied this position in the list.

Tremulieren shares the oscillating finger description as Undulation but adds that it is also “to *trill*; to quiver; to execute a *trill* or *Tremulo*” (p. 537). The entry states it is the same as *vibrato*.

Elson, Louis Charles. *Elson's Pocket Music Dictionary: The Important Terms Used in Music with Pronunciation and Concise Definition, Together with the Elements of Notation and a Biographical List of Over Five Hundred Noted Names in Music*. Boston: Oliver Ditson Co, 1909.

Based on a previous dictionary of Elson’s published in 1905, this book contains several similar entries. The definition of *Tremolo* is tied to *Tremando* and *Tremolando*, meaning “Trembling, quivering, a note or chord reiterated with great rapidity, producing a *tremulous* effect” (p. 151). But the meaning of trembling becomes less clear in the definition of the two terms immediately following, *Tremolant* and *Tremulant*. They are listed as “An organ or harmonium stop which gives to the tone a waving, trembling or undulating effect.” A few pages later, the definition of *Vibrato* states that it is “A strong, vibrating, full quality of tone; resonant” (p. 156).

“Electrical Violin Player,” *Electrical World Volume 55*, no. 12 (March 24 1910): p 764.

This article details the mechanical workings of a newly developed electrical player violin. In replicating *vibrato* on the instrument, the article states that it is obtained via “a large magnet whose weighted armature is arranged to shake the tailpiece sideways” (p. 764).

Aldrich, Richard. "News and Reviews of the Music World." *New York Times* 21 April 1912, p. X11.

Under the subsection title "It Not Only Imitates Violinists But Provides Piano Accompaniment," an article discusses a new mechanical piano with an integrated violin. The violin component of the machine produces *vibrato* or *tremolo* not by "fingering the neck of the instrument, as is done by a living player, but by vibrating the string at the base of the violin" (p. X11). The article also includes a drawing indicating the finger control mechanism and the *vibrato* lever.

Chisholm, Hugh. *The Encyclopædia Britannica; The New Volumes, Constituting, in Combination with the Twenty-Nine Volumes of the Eleventh Edition, the Twelfth Edition of That Work, and Also Supplying a New, Distinctive, and Independent Library of Reference Dealing with Events and Developments of the Period 1910 to 1921 Inclusive*. London: Encyclopædia Britannica, Co, 1922.

Under "Music" in discussing differences between performances, the impact on the listener, and the evolution and progression of the inherent power found within, the writer states that composers in general desire to become more effective, more grandiose, and in reaching for that, they "instruct the first trumpet to indulge in a street-player's *vibrato*..."(p. 1046).

"Devises Electrical Method for Testing Violin Tone Quality." *The Vancouver Sun*, Vancouver B.C. October 27, 1928.

In an article discussing new methods of electrically testing the quality of violins and the ability to discern between them, the author comments on

the instrument itself. “The character of the instrument becomes recognizable only upon alterations in the height of the tone or upon the detection of the *vibrato* of the violin” (p. 4).

Cheslock, Louis. *Introductory Study on Violin Vibrato*. Baltimore: Peabody Conservatory of Music, 1931.

This book is a scientific study on the mechanics and properties of *vibrato* on the Violin. But before breaking down and analyzing what constitutes the characteristics of *vibrato*, Cheslock in the introduction comments on *vibrato*'s current usage: “To vibrate or not to vibrate can no longer be a question in violin playing. Whatever scruples exist against the *vibrato per se* must give way to the fact that it is used by every violin virtuoso worthy of his art, and by every aspirant to virtuosity. It is not only generally used on sustained tones but it is also frequently abused” (p. 7.) *Vibrato* is then analyzed by speed, amplitude, duration and tone quality. Under conclusions, Cheslock states: “The quality of violin-*vibrato* should not be considered as solely determined by the pitch-variations, but as being affected by a group of factors, among which are also intensity-variations, tone-beginning and ending, fingering, shifting, and noise-elements” (p. 78).

La Laurencie, Lionel de. *L'école française de violon, de Lully à Viotti; études d'histoire et d'esthétique*. Paris: Delagrave, 1922.

In a footnote, La Laurencie quotes from Mersenne's *Harmonie Universelle*, citing the section referring to the left hand *tremblents* and

flattemens (p. 17.) Mersene is referenced again in an analysis of his writing and impressions of amount of *vibrato* employed. In a later analyzation of a piece of music, Brossard's *Dictionarie...* is referenced linking the prolongation of sound in *tremolos* to imitation of the *tremblant* stop in the organ.

"Today's Radio Program," *New York Times*, 24 August 1922, p. 31.

A published radio program schedule lists during the 8:00p.m. time slot the pieces of music the station was going to play. Among the music listed was Offenbach's *Barcarolle* from *Hoffman*, Bach's *Bouree*, and Alexo's *Vibrato*.

"Some Aspects of Modern Musical Development in Relation to Individual Effort and Self-Expression of the Musician," *New York Times*, 1 May 1927, p. X6.

This article by Olin Downes questions the future of music and the mechanization of music making, including the composition of music for music making machines. In a criticism of machines playing music, Downes implies that the mechanical music is inhuman and therefore inferior. After listing several mechanical instruments, Downes criticizes them because "They make use of *vibrato* passages in fast tempo, combinations of *vibrato*, legato, staccato and martellato, of great chords, or simultaneous *trills* on an unlimited number of notes and even a new sort of *trill* which takes in the entire keyboard" (p. X6).

“Music from the Disc,” *Evening Post*, 24 March 1928, p. 24.

The columnist diverts off topic and expresses his opinion against the use of *vibrato* or *tremolo*. The writer then cites an article by an unnamed “great musician” on the subject who supports the anti-*vibrato* viewpoint. “*Vibrato* comes to us in the guise of a friend, particularly in string instruments. It has letters of introduction from esteemed masters. It even helps us over difficulties. But its real name is ‘death the leveler,’ for it kills all musical tone” (p. 24). The unnamed “great musician” continues that the excess use of *vibrato* in jazz bands should be reason enough that it not be used in classical music. “Is it not pretty obvious that what suits the slobbery tones of a jazz band will not do for music? To set out to acquire a passionate *vibrato* is to acknowledge incapacity to distinguish between emotion and gush, between the good and meretricious, and between art and charlatanism.”

Seashore, Carl E. *Psychology of the Vibrato in Voice and Instrument*. Iowa City, IA: University Press, 1936.

This book is a scientific analysis of vibrato and its use as a means of expression. Aside from the scientific measurements, Seashore makes several observations and commentary on the present state of *vibrato* use. Seashore notes “Good and bad *vibrato*. The situation is further complicated by the fact that the vibrato may be good or bad, agreeable or objectionable. Bad *vibratos* are very abundant, even among well-trained musicians. The repulsiveness of the bad *vibrato* has put many a musician

on edge against all *vibratos*. This becomes aggravated by the fact that the more musically sensitive a musician is, the more refinement he demands in the *vibrato*, so that what may seem pleasing to the ordinary ear, may be utterly offensive to his ear. Thus the good is often thrown out with the bad; the good *vibrato* is ignored through the offense of the bad” (p. 9).

Seashore states that through scientific measurement of violin recordings, three observations can be made: 1. *Vibrato* is present in practically all of the pitches stopped by a finger. 2. *Vibrato* occurs during the complete duration of the tone on which it occurs and 3. It is usually not employed on *portamentos*. Seashore writes that “most of the principles illustrated by the violin apply to the other bowed string instruments, and certain of the principles apply also to wind instruments” (p. 40). To this he adds “The *vibrato* may be used in any of the band or orchestral instruments, but artists generally discourage it for woodwind or brass instruments, except for isolated and specific effects” (p. 58). The book closes with many pages of opinions on *vibrato* usage from history through current sources.

CHAPTER 4

SUMMARY

Overview

The history of instrumental *vibrato* cannot be reduced to such simple statements as “yes it was always used” or “no it was not.” A study of historical documents shows that musicians have had a desire to modify pitch using *vibrato* techniques dating back to the 1500s. This evidence can be found in the writings of Agricola, Cardano, Praetorius, and Ganassi. Throughout history, different regions and schools of teaching have supported one side or another, with various levels of acceptance in between. However, one finds no consensus at any time in Western art music that *vibrato* is wholly acceptable or wholly unacceptable. The findings of this project demonstrate that any statement to the contrary could be easily refuted and would therefore be without merit.

A look into the written documents revealed opinions based on actions and reactions pertaining to *vibrato*, along with misinformation and, at times, confused use of terminology. Nevertheless, the fact remains that the undulation of a pitch produced on an instrument has been a part of musical performance for 500 years.

This project involved an investigation of 309 historical documents, 258 of which contained writings about instrumental *vibrato*. Of those, 157 are included in the annotated bibliography in Chapter 3 of the present document. The remaining 101 were reserved for later usage. Fifty-one documents not containing writing relevant to this topic are listed in the section “Sources Yielding No Results” below.

Areas Needing Further Research

It has been shown that the use of *vibrato* has been documented, described, and used throughout music history. Although the present project examined 309 historical documents, much more work remains to be done. There are hundreds (if not more) method books and tutors yet to be examined. Further, an unknown number of newspaper articles may include discussions of *vibrato*. This includes foreign language newspapers, which were not included in this project.⁵⁰

Additionally, the scope of this project focused on English language publications and foreign language historical documents in which the printed text was easily readable. There are many documents written in older scripts in which no attempt was made to translate due to the complexity and often unclear printing of the graphic lettering. Also, no Russian texts were included in this project.

A comparison of the number of annotations by section also reveals instrumental groupings in need of more research. The annotations were divided into sections as follows: Strings, fifty-two; Woodwinds, eight; Brass, eleven; Organ, twelve; Other Keyboard Instruments, eight; Guitar/Banjo/Lute, twelve; Theremin, six. The number of annotations in the string section was only slightly less than the rest of the instrumental sections combined (fifty-two to fifty-seven) and totaled more than the Dictionaries/.../Miscellaneous section (fifty-two to forty-two). This imbalance in findings by instrumental grouping is highlighted

⁵⁰ Many of the advances in technology that allowed searching of sources such as the *New York Times* are either not in place with most newspapers of sufficient age, or required prohibitive subscription fees for the service.

further by the 101 examples containing references to *vibrato* that were not annotated in this project, of which most related primarily to the string group.

The disproportionate results in the number of annotations by instrumental division could be attributed to several factors. The first is the popularity of the violin versus other instruments. Throughout the past four hundred years, the violin has been one of the more prominently featured instruments as a soloist, and as such, much more has been written about it. Second, the violin (and subsequently the string section) constitutes the largest section of players within the orchestra, which would then suggest that that it occupies a larger percentage of musicians who are/were playing instruments at a given time. Music publishers would have noted this and tailored the type and number of publications to the largest possible market.

The type of sources included in the instrumental divisions also contributes to the disproportionate findings. Newspaper articles were placed in all instrumental divisions as opposed to being confined to the Dictionaries/.../Miscellaneous section. This was done to retain the main subject of each article. If the subject was a specific instrument in performance, it was placed in that instrument's family/section. If the main subject was general music or another topic and not about a specific instrument, then the article was placed into the Dictionaries/.../Miscellaneous section.

Newspaper sources accounted for twenty-four of the fifty-two entries in the string section of the annotated bibliography. If all of the newspaper sources had instead been placed under the Dictionaries/.../Miscellaneous section, then the

string annotations would only number slightly more than double to the next closest section by number, the Organ, which would consist of ten annotations after losing two newspaper articles.

Additionally, any sources in the Dictionaries/.../Miscellaneous section that mention any instruments, though not the main focus, were not included in the total count of annotations in any instrumental division. In several cases, there were instruments that were commented on (an on occasion, several instruments from separate families,) that were not included in the total number of annotations for each instrument/family section. This lowered the total number of annotations for each instrumental section, and possibly caused a further skewing of the annotation totals.

Sources Yielding No Results

The following bibliography lists sources that were accessed through the research methods previously discussed, but produced no usable results for this project. These materials were analyzed for one or several of the following reasons: 1. The material was available in electronic form in a collection or database with other material of similar content; 2. The material generated a “partial positive” from OCR searching, indicating that a portion of a key search term was included in the document;⁵¹ or 3. The material met the requirements of having been written before 1940 and contained other information similar in nature to other materials that contained information about *vibrato*. The makeups of the

⁵¹ An example would be the grouping of letters “vibr” in a body of text, but not the term *vibrato*.

sources vary from full treatises on instrumental performance to etude books containing little or no text. These sources are listed here as a courtesy to prevent future repetitive research on the topic.

Arban, Jean-Baptiste, and T.H. Rollinson. *Arban's World Renowned Method for the Cornet*. Philadelphia: J.W. Pepper, 1879.

Arnold, John. *Church Music Reformed Or the Art of Psalmody Universally Explained Unto All People. Containing, I. A New Introduction to the Grounds of Music ... II. Select Portions of the Psalms of David ... The Psalm-Tunes Are Set in Two Parts, Treble and Bass ... By John Arnold*. London: Printed by R. Brown, for the author, and sold by L. Hawes and Co., S. Crowder and Co., and J. Buckland, 1765.

Auer, Leopold, and Gustav Saenger. *Leopold Auer Graded Course of ensemble playing: supplementing the Leopold Auer graded courses of violin playing*. New York: Carl Fischer, 1926

Barbier, Jean. *Technique rationnelle du violoncelle*. Paris: M. Eschig, 1935.

Barret, Apollon Marie-Rose. *A complete method for the oboe: comprising all the new fingerings, new tables of shakes, scales, exercises, &c. &c.* London: J.R. Lafleur & Son, 1900.

Bemetzrieder, Antoine. *Abstract of the Talents & Knowledge of a Musician, with a New Method Which May Enlighten the Amateurs in Their Musical Studies*. London: Bemetzrieder, 1783.

Bériot, Ch. de, and George Lehmann. *Method for Violin*. New York: G. Schirmer, 1899.

Borissoff, Josef. *Foundation for Violin Technic: Developed in Accordance with the Basic Principles of the First Position*. New York: Carl Fischer, Inc, 1925.

Bremner, Robert. *The Rudiments of Music, or, A Short and Easy Treatise on That Subject: To Which Is Annexed, a Collection of the Best Church-Tunes, Canons, and Anthems*. London: Printed for the author, 1762.

Burtius, Nicolaus, and Clement A. Miller. *Musices Opusculum*. [S.l.]: American Institute of Musicology, 1983.

- Carcassi, Matteo. *Méthode complète pour la guitare: en trois parties = Complete guitar method : in three parts*. London: Schott, 1900.
- Courvoisier, Karl. *The Technics of Violin Playing*. London: The Strad, 1908.
- Cristofaro, F. de. *Méthode de mandoline*. Paris: H. Lemoine, 1884.
- Crome, Robert. *The Fiddle New Model'd Or a Useful Introduction for the Violin, Exemplify'd with Familiar Dialogues by Robert Crome*. London: Printed by J. Tyther, 1735.
- Dauprat, Louis François. *Méthode de cor*. Paris: Lemoine et Fils, 1900.
- Domnich, Heinrich. *Méthode de premier et de second cor ... Adoptée pour servir à l'étude dans cet établissement*. A Paris: Au Magasin de Musique du Conservatoire; Chez Maurice Schlesinger, 1824.
- Dressler, Raphael. *Dressler's new and complete instructions for the flute, comprising a treatise on the rudiments of music ... best modes of fingering all the notes and shakes*. New York: E. Riley, 1830.
- Duvernoy, Frédéric. *Méthode pour le cor, suivie de Duo et de Trio pour cet instrument*. Genève: Minkoff Reprints, 1802.
- Fröhlich, Franz Joseph. *Contrabass-Schule nach den Grundsätzen der besten über dieses Instrument bereits erschienenen Schriften Auszug aus dessen grösserem Werke der allg. theor.-prack. Musikschule*. Bonn: Simrock, 1813.
- Goulding, G. *New and complete tutor for the violoncello : wherein the present much improv'd method of fingering is clearly & fully explained, shewing by sections of the fingerboard the various modes of fingering in different keys, as used by the most eminent masters : to which is annexed for the improvement & practice of the student a selection of admired Italian, French, English, Scotch, & Irish airs : and also by permission of the patentee a drawing of the new invented patent fingerboard*. London: Preston & Son, 1785.
- Goulding, G. *New and complete tutor for the violoncello : wherein the present much improv'd method of fingering is clearly & fully explained, shewing by sections of the fingerboard the various modes of fingering in different keys, as used by the most eminent masters : to which is annexed for the improvement & practice of the student a selection of admired Italian, French, English, Scotch, & Irish airs : and also by permission of the*

- patentee a drawing of the new invented patent fingerboard.* London: Preston & Son, 1799.
- Gunn, John. *The Theory and Practice of fingering the Violoncello ... The second edition.* London: The Author, 1815.
- Hampel, Anton Joseph, and Giovanni Punto. *Seule et vrai méthode pour apprendre facilement les élémens des premier et second cors aux jeunes élèves, dans laquelle sont indiquer les coups de langue et les liaisons les plus nécessaires pour tirer les beaux son de cet instrument.* Paris: H. Naderman, 1798.
- Hermann, F. *Violin-Schule/Violin-school.* Leipzig: C.F. Peters, 1879.
- Hubbard, W. L., George Whitfield Andrews, Edward Dickinson, Arthur Foote, Janet M.
- Green, Josephine Thrall, and Emil Liebling. *The American History and Encyclopedia of Music.* Toledo: I. Squire, 1908.
- Jackson, William. *Observations on the Present State of Music, in London.* Dublin: Printed for A. Grueber [etc.], 1791.
- Jones, William. *A Treatise on the Art of Music; In Which the Elements of Harmony and Air Are Practically Considered, and Illustrated by an Hundred and Fifty Examples in Notes, Many of Them Taken from the Best Authors: the Whole Being Intended As a Course of Lectures, Preparatory to the Practice of Thorough-Bass and Musical Composition.* Colchester: Printed for the author, by W. Keymer, 1784.
- Kling, Henry Adrien Louis. *Horn-Schule. Méthode pour le cor (simple ou chromatique), etc. [With three plates.] Ger. & Fr.* Leipzig: Breitkopf & Härtel, 1879.
- Legnani, Luigi. *Metodo per imparare a conoscere la musica e suonare la chitarra composto colla massimo semplicità e chiarezza ; op. 250.* Milano [u.a.]: Ricordi, n.d.
- Malcolm, Alexander. *Malcolm's Treatise of Music, Speculative, Practical, and Historical. Corrected and Abridged, by an Eminent Musician.* London: Printed for J. French, 1776.
- Mandel, Charles. *A Treatise on the Instrumentation of Military Bands ; Describing the Character and Proper Employment of Every Musical Instrument Used in Reed Bands.* London: Boosey and Sons, 1860.

- Massart, L., and Gustav Saenger. *The art of studying R. Kreutzer's etudes: 412 examples compiled according to the advice of the author.* New York: Carl Fischer, 1898.
- Monzani, Tebaldo. *Monzani's Instructions for the German Flute.* 1813.
- Muntz Berger, J. *Nouvelle méthode pour le violoncelle dans la quelle toutes les difficultés sont gradués: œuvre 30.* A Paris: chez Sieber fils], 1801.
- No Author Given. *J.W. Pepper's Self Instructor for French Horn.* Philadelphia, Pa: J.W. Pepper, 1882.
- Pietrapertosa, J. *Methode de mandoline en deux parties.* Paris: Rosenberg, 1897.
- Pietrapertosa, Janvier. *Méthode complète de Mandoline ou Banjoline, théorique et pratique.* Paris: Alphonse Leduc, 1903.
- Playford, Henry. *The sprightly companion being a collection of the best foreign marches, now play'd in all camps. With two farewells at the funeral of the late Queen, one of four parts, by Mr. Peasible; the other of three parts by Mr. Tollett; and several other tunes. Designed chiefly for the hautboy; yet proper for the flute, violin, and other instruments; also plain and easy directions for playing on the hautboy.* London: Printed by J. Heptinstall for Henry Playford, 1695.
- Porter, William S., and James Loring. *The Musical Cyclopeda: or The Principles of Music Considered As a Science and an Art;: Embracing a Complete Musical Dictionary, and the Outlines of a Musical Grammar, and of the Theory of Sounds and Laws of Harmony; with Directions for the Practice of Vocal and Instrumental Music, and a Description of Musical Instruments.* Boston: Published by James Loring, 132 Washington Street, 1834.
- Reinagle, Joseph. *A Concise Introduction to the Art of Playing the Violoncello: Including a Short and Easy Treatise on Music to Which Is Added Thirty Progressive Lessons.* London: Printed by Goulding, Phipps & D'Almaine, 1800.
- Riemann, Hugo. *Catechism of Musical Instruments (Guide to Instrumentation).* London: Augener & Co, 1890.
- Schick, Otto. *Mandolinen-Schule: zum Selbstunterricht geeignet.* Leipzig: Peters, 1900.

- Schroeder, Carl. *Schule des Trillers und Staccatos op. 39*. Leipzig [u.a.]: Breitkopf & Härtel, 1920.
- Ševčík, O., and Philipp Mittell. *School of violin technics: op. 1 : in four parts*. New York: G. Schirmer, 1905.
- Sor, Fernando. *Method for the Spanish Guitar*. London: Robert Cocks & Co., 1850.
- Tans'ur, William. *Heaven on Earth Or, the Beauty of Holiness. In Two Books. Containing, I. The Whole Book of the Proverbs ... Set to Musick. II. The Song of Songs ... Together, with Various Hymns, Anthems, and Canons : ... Set Down in Score for Voice or Instrument. By William Tans'ur*. London: Printed by A. Pearson, for S. Birt. Also sold by the author, 1738.
- Tartini, Giuseppe. *Trattato di musica secondo la vera scienza dell' armonia*. Padova: Nella stamperia del Seminario, appresso G. Manfrè, 1754.
- Turner, William. *Sound Anatomiz'd In a Philosophical Essay on Musick. Wherein Is Explained the Nature of Sound ... By William Turner*. London: Printed by William Pearson, for the author, and sold by M. Turner, and no where else in England, 1724.
- Wieniawski, Henri, and Hans Sitt. *L'ecole moderne: etudes caprices pour violon seul, op. 10*. Leipzig: C.F. Peters, 1900.

REFERENCES

- "1929 -- A Satire, by David Stanley Smith, Finds a Place on the Philharmonic Program." *New York Times* (1923-Current File), November 16, 1933. 31,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/100832706?accountid=4485>.
- "Article 6 -- no Title." *New York Times* (1857-1922), June 11, 1893.
- "Beatrice Griffin Plays." *New York Times* (1923-Current File), March 18, 1931. 33,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/99375625?accountid=4485>.
- "Byzantine Group in Concert here." *New York Times* (1923-Current File), October 28, 1933. 20,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/100853663?accountid=4485>.
- "Eddy Brown in Recital." *New York Times* (1923-Current File), November 03, 1929. 27,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104704600?accountid=4485>.
- "Elshuco Trio again Heard." *New York Times* (1923-Current File), December 11, 1929. 34,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104836367?accountid=4485>.
- "Ether Concert Stirs Musical Stars here." *New York Times* (1923-Current File), January 25, 1928.
- "Ether Wave Music Amazes Savants." *New York Times* (1923-Current File), October 02, 1927. E1,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104051033?accountid=4485>.
- "Ether Wave used." *New York Times* (1923-Current File), December 25, 1927. X8,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/103975575?accountid=4485>.

- "Felix Eyle Gives Recital." *New York Times* (1923-Current File), November 16, 1930. 24,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/98775649?accountid=4485>.
- "Give a Joint Recital." *New York Times* (1923-Current File), January 27, 1930. 24,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/99023429?accountid=4485>.
- "Guila Bustabo, Violinist, Plays." *New York Times* (1923-Current File), December 16, 1932. 25,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/99759612?accountid=4485>.
- "Harold Bauers Recital." *New York Times* (1923-Current File), November 04, 1923. 22,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/100162452?accountid=4485>
- "Interesting Feature of the Season is to be found in the Striking Popularity of the Pre-Classical Art and its Method of Expression." *New York Times* (1857-1922), December 08, 1907. X2,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/96736112?accountid=4485>.
- "Kochanski Gives Brilliant Recital." *New York Times* (1923-Current File), February 18, 1930. 25,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/98580675?accountid=4485>.
- "Lener Quartet Gives Artistic Concert." *New York Times* (1923-Current File), October 21, 1930. 38,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/98793758?accountid=4485>.
- "Leopold Auer, Man and Artist." *New York Times* (1923-Current File), July 27, 1930. 99,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/98885873?accountid=4485>.
- "Music from the Air with a Wave of the Hand." *New York Times* (1923-Current File), January 29, 1928. 128,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104648695?accountid=4485>.

- "Music in Review." *New York Times* (1923-Current File), December 05, 1935. 30,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/101267989?accountid=4485>.
- "Music." *New York Times* (1923-Current File), April 11, 1934. 24,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/100984027?accountid=4485>.
- "Music." *New York Times* (1923-Current File), December 05, 1929. 35,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104859741?accountid=4485>.
- "Music." *New York Times* (1923-Current File), January 09, 1928. 30,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104683258?accountid=4485>.
- "Music." *New York Times* (1923-Current File), March 21, 1939. 30,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/102791121?accountid=4485>.
- "Music." *New York Times* (1923-Current File), October 31, 1934. 17,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/100971061?accountid=4485>.
- "Musical Art Quartet Heard." *New York Times* (1923-Current File), February 15, 1933. 17,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/100772529?accountid=4485>.
- "Newly Recorded Music." *New York Times* (1923-Current File), July 24, 1932. X5,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/99571010?accountid=4485>.
- "Newly Recorded Music." *New York Times* (1923-Current File), March 01, 1931. X10,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/99092177?accountid=4485>.
- "Novelties in Paris." *New York Times* (1923-Current File), March 24, 1929. 139,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104735949?accountid=4485>.

- "Opera in London." *New York Times* (1923-Current File), December 05, 1937. 220,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/102122137?accountid=4485>.
- "Other Music in Review." *New York Times* (1923-Current File), November 26, 1939. 45,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/102930694?accountid=4485>.
- "Philharmonic has a Saxophone Soloist for First Time in its is 3,543 Concerts." *New York Times* (1923-Current File), November 12, 1939. 48,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/102946079?accountid=4485>.
- "Recital by Max Rosen." *New York Times (1923-Current File)*, October 21, 1929. 25,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104886182?accountid=4485>.
- "Rudolph Polks Violin Recital." *New York Times* (1857-1922), March 24, 1920. 12,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/98225166?accountid=4485>
- "Segovia, Guitarist, in Farewell Recital." *New York Times* (1923-Current File), March 07, 1930. 27,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/98671036?accountid=4485>.
- "Segovia, Guitarist, in First Recital." *New York Times* (1923-Current File), January 23, 1936. 25,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/101896502?accountid=4485>.
- "Sittig Trios Recital." *New York Times* (1923-Current File), December 10, 1929. 39,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104839583?accountid=4485>.
- "Some Aspects of Modern Musical Development in Relation to Individual Effort and Self-Expression of the Musician." *New York Times* (1923-Current File), May 01, 1927. X6,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104232914?accountid=4485>.

- "Theremin Opens a Musical Vista." *New York Times* (1923-Current File), January 29, 1928. 128,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/104661253?accountid=4485>.
- "Today's Radio Program." *New York Times* (1857-1922), August 24, 1922. 31,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/98676157?accountid=4485>.
- "Vasa Prihoda Heard at Carnegie Hall." *New York Times* (1923-Current File), November 09, 1930. 25,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/98765358?accountid=4485>.
- "Weissenberg in Recital." *New York Times* (1923-Current File), February 06, 1931. 26,
<http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/99148417?accountid=4485>.
- "A Grade Bands." *Taranaki Herald*, Volume LIV, Issue 13644, New Zealand, 29 February 1908.
- "A New Wind Instrument." *The Daily Indianian*, Warsaw, Ind. June 1, 1882.
- "Band Column." *Otago Witness*, Issue 2807, New Zealand, January 1, 1908.
- "Band Contest." *Marlborough Express*, Volume XLIII, New Zealand, Issue 260, November 3, 1909.
- "Bands' Contest." *Otago Witness*, Issue 2552, New Zealand, February 11, 1903.
- "Banjo, Guitar, and Mandolin Club's Concert." *Auckland Star*, Volume XXVII, Issue 298, New Zealand, December 15, 1896.
- "Besses O'Th' Barn Band." *Nelson Evening Mail*, Volume XLII, New Zealand, January 21, 1907.
- "Brass Band Contest." *Evening Post*, Volume LXV, Issue 30, New Zealand, February 5, 1903.
- "Devises Electrical Method for Testing Violin Tone Quality." *The Vancouver Sun*, Vancouver B.C., October 27, 1928.

- “Electrical Violin Player.” *Electrical World*, Volume 55 No. 12 W.D. Weaver Ed. New York McGraw-Hill: March 24, 1910.
- “Henry Smart’s Compositions for the Organ.” *The Musical Standard*, Vol. 17 Third Series No. 786, August 23, 1879.
- “Herbert Wilber Greene.” *Werner’s Magazine*, Vol. 22 No. February 6, 1899.
- “Music for the People.” *Evening Post*, Volume LXXI, Issue 56, New Zealand, March 7, 1906.
- “Music from the Disc.” *Evening Post*, Volume CVI, Issue 71, New Zealand, March 24, 1928.
- “No Title.” *The Flutists*, Vol. 1 No. 5, May 1920.
- “Notes on the Concert-Room Organ.” *English mechanic and world of science: with which are incorporated "the Mechanic", "Scientific opinion," and the "British and foreign mechanic."*, Volume 46 Nos.1, 176 E.J. Kibblewhite, ed, October 7, 1888.
- “Stage Fright.” *Evening Post*, Volume CXXVII, Issue 42. New Zealand, February 20, 1939.
- “The ‘Vibrato’ (alias ‘Tremolo,’ alias ‘Wobble).” *Dwight’s Journal of Music*, Vol 35 No. 11 Boston, September 4, 1875.
- “The Judge’s Notes.” *Feilding Star*, Volume 37, Issue 90, New Zealand, November 8, 1905.
- Agricola, Martin, and William E. Hettrick. *The "Musica instrumentalis deudsch" of Martin Agricola: a treatise on musical instruments, 1529 and 1545.* Cambridge: Cambridge University Press, 1994.
- Agricola, Martin. *Musica instrumētalis deudsch, ynn welcher begriffen ist, wie man nach dem Gesange auff mancherley Pfeiffen lernen sol, auch wie auff die Orgel, Harffen, Lauten, Geigen, vnd allerley Instrument vnd Seytenspiel, nach der rechtgegründten Tabelthur sey abzusetzen. Colophon: Gedrückt zu Wittemberg, 1529.*
- Aguado, Dionisio. *Nuevo método para guitarra.* Madrid: Fuentes, 1843.
- Aldrich, Richard. "News and Reviews of the Music World." *New York Times (1857-1922)*, Apr 21, 1912. X11, <http://login.ezproxy1.lib.asu.edu/login?url=http://search.proquest.com/docview/97253568?accountid=4485>.

Alexander, Joseph. *Anleitung zum Violoncellspiel*. 1800.

Apollo's Cabinet: or the Muses Delight An Accurate Collection of English and Italian Songs, Cantatas and Duets, Set to Music for the Harpsichord, Violin, German-Flute, &c. With Twelve Duettos for Two French Horns, Composed by Mr. Charles. And Instructions for the Voice, Violin ... Also, a Compleat Musical Dictionary, and Several Hundred English, Irish and Scots Songs, Without the Music. Liverpool: Printed by John Sadler, 1756.

Audsley, George Ashdown. *Organ-Stops and Their Artistic Registration; Names, Forms, Construction, Tonalities, and Offices in Scientific Combination*. New York: The H.W. Gray Co., sole agents for Novello & Co, 1921.

Audsley, George Ashdown. *The Organ of the Twentieth Century; A Manual on All Matters Relating to the Science and Art of Organ Tonal Appointment and Divisional Apportionment with Compound Expression*. New York: Dodd, Mead, and Company, 1919.

Auer, Leopold. *Violin Playing As I Teach It*. New York: Frederick A. Stokes Company, 1921.

Bach, Carl Philipp Emanuel. *Versuch über die wahre art das clavier zu spielen*. Berlin: In verlegung des auctoris, gedruckt bey C.F. Henning, 1753.

Baillot, Pierre, and Jean Louis Duport. *Exercices pour le violoncelle dans toutes les positions du pouce: Supplement de la Méthode de violoncelle par Baillot, Lavasseur, Catel et Baudiot*. Copenhagen: C. C. Lose, n.d. (c.a. 1832).

Baker, Theodore. *Dictionary of Musical Terms: Containing Upwards of 9,000 English, French, German, Italian, Latin, and Greek Words and Phrases Used in the Art and Science of Music, Carefully Defined, and with the Accent of the Foreign Words Marked; Preceded by Rules for the Pronunciation of Italian, German and French, with a Suppl. Containing an English-Italian Vocabulary for Composers*. New York: G. Schirmer, 1895.

Baker, Theodore. *Dictionary of Musical Terms: Containing Upwards of 9,000 English, French, German, Italian, Latin, and Greek Words and Phrases Used in the Art and Science of Music, Carefully Defined, and with the Accent of the Foreign Words Marked; Preceded by Rules for the Pronunciation of Italian, German and French, with a Suppl. Containing*

- an English-Italian Vocabulary for Composers*. New York: G. Schirmer, 1897.
- Bayly, Anselm. *A Practical Treatise on Singing and Playing with Just a Passion and Real Elegance*. 1771.
- Bemetzrieder, Anton. *A Complete Treatise on Music. The Precepts and Examples in Two Separate Books. The Book of Precepts*. London: Printed for the subscribers to Mr. Bemetzrieder's new works, by Thomas Rickaby. 1800.
- Bickford, Zarh Myron. *The Bickford mandolin method*. New York: Carl Fischer, 1920.
- Brossard, Sébastien de, James Grassineau, and John Christopher Pepusch. *A Musical Dictionary; Being a Collection of Terms and Characters, As Well Ancient As Modern; Including the Historical, Theoretical, and Practical Parts of Music*. London: J. Wilcox, 1740.
- Burney, Charles. *The Present State of Music in Germany, the Netherlands, and United Provinces.: Or, the Journal of a Tour Through Those Countries, Undertaken to Collect Materials for a General History of Music*. London: Printed for T. Becket, 1775.
- Busby, Thomas, and J. A. Hamilton. *A Dictionary of Three Thousand Musical Terms*. 1840.
- Busby, Thomas, and Samuel Arnold. *A Dictionary of Music, Theoretical and Practical. To Which Is Prefixed, a Familiar Introduction to the First Principles of That Science*. London: R. Phillips, 1817.
- Busby, Thomas, and Samuel Arnold. *A Dictionary of Music, Theoretical and Practical. To Which Is Prefixed, a Familiar Introduction to the First Principles of That Science*. London: Printed for Sir Richard Phillips and Co, 1823.
- Busby, Thomas. *A Complete Dictionary of Music: To Which Is Prefixed, a Familiar Introduction to the First Principles of That Science*. London: Printed for R. Phillips by B. M'Millan, 1811.
- Campagnoli, B. *Metodo della meccanica progressiva per suonare il violino: diviso in quattro parti e distribuito in 132 lezioni progressive per due violini e 118 studi per un sol violino : preceduto dalle regole e dall'applicazione delle lezioni e studi per servire di lume agli allievi o dilettanto : op. 21*. Milano: Tito di G. Ricordi, 1853.

- Cardano, Gerolamo. *De Musica*. n.p. 1546.
- Cardano, Gerolamo. *Hieronymi Cardani Mediolensis opera omnia, Sponius*, Lyons, 1663.
- Cardano, Girolamo, and Clement A. Miller. *Writings on music*. Rome: American Institute of Musicology, 1973.
- Carl Philipp Emanuel Bach, and William J. Mitchell. *Essay on the True Art of Playing Keyboard Instruments*. New York: W.W. Norton, 1949.
- Cheslock, Louis. *Introductory Study on Violin Vibrato*. Baltimore, Md: Peabody Conservatory of Music, 1931.
- Chisholm, Hugh. *The Encyclopædia Britannica; The New Volumes, Constituting, in Combination with the Twenty-Nine Volumes of the Eleventh Edition, the Twelfth Edition of That Work, and Also Supplying a New, Distinctive, and Independent Library of Reference Dealing with Events and Developments of the Period 1910 to 1921 Inclusive*. London: Encyclopædia Britannica, Co, 1922.
- Cooke, James Francis. *Great Pianists on Piano Playing: Study Talks with Foremost Virtuosos*. Philadelphia: Theo. Presser Co, 1917.
- Corbetta, Francesco. *La guitarre royalle dediée au Roy de la Grande Bretagne*. À Paris: chez le dit Bonneüil, rüe au Lard proche la Boucherie de Beauuais au dessus de la Halle aux Cuirs, 1671.
- Danneley, John Feltham. *An Encyclopaedia, or Dictionary of Music ... With Upwards of Two Hundred Engraved Examples, the Whole Compiled from the Most Celebrated Foreign and English Authorities, Interspersed with Observations Critical and Explanatory*. London: Printed for the editor, and pub. by Preston, 1825.
- David, Ferdinand. *Violinschule = Violin-School*. Leipzig: Breitkopf & Härtel, 1870.
- De Ville, Paul. *Universal Method for the Saxophone*. New York: C. Fischer, 1908.
- Dickinson, Clarence, and Helen A. Dickinson. *The technique and art of organ playing*. New York: H.W. Gray, 1922.
- Elson, Louis Charles. *Elson's Music Dictionary; Containing the Definition and Pronunciation of Such Terms and Signs As Are Used in Modern Music;*

Together with a List of Foreign Composers and Artists ... and a Short English-Italian Vocabulary of Musical Words and Expressions. Boston: O. Ditson Company, 1905.

Elson, Louis Charles. *Elson's Pocket Music Dictionary: The Important Terms Used in Music with Pronunciation and Concise Definition, Together with the Elements of Notation and a Biographical List of Over Five Hundred Noted Names in Music.* Boston: Oliver Ditson Co, 1909.

Fisher, Henry. *Psychology for Music Teachers. The Laws of Thought Applied to Sounds and Their Symbols, with Other Relevant Matter.* London: Curwen, 1907.

Foscarini, Giovanni Paolo. *I quattro libri della chitarra spagnola nelli quali si contengono tutte le sonate ordinarie: semplici & passeggiate, con una nuoua inuentione di passacalli spagnoli uariati, ciacone, follie, zarabande, arie diuerse, toccate musicali, balletti, corrēti, volte, gagliarde, alemande, con alcune sonate picicate al modo dl [sic] leuto con le sue regole per imparare à sonarle facilissimamente. Autore l'Academico Caliginoso detto il Furioso . Nouamente composto e datto in luce. 1630*

Fowles, Ernest. *Studies in Musical Graces.* London: The Vincent Music Company, ltd, 1907.

Ganassi, Silvestro, and Giacomo Fogliano. *Regola rubertina regola che insegna sonar de viola d'archo tastada.* Venezia: l'autore, 1542.

Ganassi, Silvestro, and Hildemarie Peter. *Opera intitulata Fontegara: Venice 1535: a treatise on the art of playing the recorder and of free ornamentation.* Berlin-Lichterfelde: R. Lienau, 1959.

Ganassi, Silvestro, dal Fontego, and Hildemarie Peter. *Regola Rubertina, First and Second Part ; a Manual of Playing the Viola Da Gamba and of Playing the Lute, Venice 1542 and 1543.* Berlin: R. Lienau, 1977.

Ganassi, Silvestro, *Opera intitulata Fontegara: Venice 1535.*

Garnier, François-Joseph, and Peter Hedrick. *A Systematic Method for the Oboe.* Columbus, Ohio: Early Music Facsimiles, 1987.

Garnier, François-Joseph. *Methode raisonnée pour le haut-bois.* n.d. (ca. 1798).

Geminiani, Francesco. *A Treatise of Good Taste in the Art of Musick.* London, 1749.

- Giorgetti, Ferdinando. *Metodo per esercitarsi a ben suonare l'alto-violino*. Milano: Tito di G. Ricordi, 1854.
- Grace, Harvey. "The Organ Works of Bach." *The Musical Times*, No. 936. London & New York Novello, Ewer and Co. Feb 1921.
- Grove, George. *A Dictionary of Music and Musicians (A.D. 1450-1880)*. London: Macmillan, 1879.
- Gruenberg, Eugene. "The Theory of Violin Playing." *Music*, Volume 16 W. S. B. Mathews, June, 1899.
- Guerau, Francisco. *Poema Harmonico Compuesto De Varias Cifras. Por El Temple De La Guitarra Española*. Madrid: Manuel Ruiz de Murga, 1694.
- Hayes, Gerald R. *Musical Instruments and Their Music, 1500-1750*. London: Oxford University Press, H. Milford, 1928.
- Henley, William H. *École moderne du Violon. - Modern Violin School. - Op. 51*. London: J. Williams, 1906.
- Herbert, Victor, Arthur Elson, and Louis Charles Elson. *The World's Best Music*. New York: The University society, inc, 1913.
- Holland, Justin. *Holland's Comprehensive Method for the Guitar: Containing the Elements of Music, Full Illustrations of the Fingering for Both Hands, Complete Instructions for the Acquisition of Knowledge of Time and of the Instrument : with All the Necessary Lessons and Examples to Facilitate Their Application, Also a Choice Collection of Music Suitable for Practice and the Acquisition of a High Order of Execution*. Boston: Oliver Ditson, 1888.
- Hubbard, W. L., George Whitfield Andrews, Edward Dickinson, Arthur Foote, Janet M. Green, Josephine Thrall, and Emil Liebling. *The American History and Encyclopedia of Music*. Toledo: I. Squire, 1908.
- Jacobs' Band Monthly* Volume 4, no. 11, November 1919.
- Joachim, Joseph, and Andreas Moser. *Violinschule = Violin school*. Berlin: Simrock, 1900.
- Jockisch, Reinhold. *Katechismus der Violine und des Violinspiels*. Leipzig: J.J. Weber, 1900.

- Johnson, Samuel and John Walker. *English Dictionary*. Boston: Nathan Hale, 1835.
- Krehbiel, Henry Edward. *How to Listen to Music ; Hints and Suggestions to Untaught Lovers of the Art*. London: J. Murray, 1902.
- Kummer, Friedrich August. *Violoncell-Schule für den ersten Unterricht: nebst 92 zweckmäßigen Übungsstücken mit Bezeichnung des Fingersatzes ; 60. Werk*. Leipzig: Hofmeister [u.a.], 1839.
- La Laurencie, Lionel de. *L'école française de violon, de Lully à Viotti; études d'histoire et d'esthétique*. Paris: Delagrave, 1922.
- Langey, Otto. *Otto Langey's Celebrated Tutors, Piccolo*. New York, N.Y.: Fischer, 1919.
- Ludden, W. *Pronouncing Musical Dictionary of Technical Words, Phrases and Abbreviations: Including Definitions of Musical Terms Used by the Ancient Hebrews, Together with Those Found in Greek and Roman Literature; a Description of the Various Kinds of Instruments, Both Ancient and Modern*. New York: J.L. Peters, 1875.
- Mace, Thomas. *Musick's Monument, or, A Remembrancer of the Best Practical Musick, Both Divine and Civil, That Has Ever Been Known to Have Been in the World Divided into Three Parts*. London: Printed by T. Ratcliffe and N. Thompson for the author, and are to be sold by himself ... and by John Carr, 1676.
- Mace, Thomas. *Musick's monument*. Vol. I. Paris: Éditions du Centre national de la recherche scientifique, 1958.
- Mataura Ensign, Issue 193, New Zealand, September 24, 1896.
- Mathews, W. S. B., and Emil Liebling. *Pronouncing and Defining Dictionary of Music*. Cincinnati: The J. Church Co, 1896.
- Mills, William C. "Musical Items." *Arizona Republican*, December 15, 1918.
- Moore, John Weeks. *Complete Encyclopædia of Music: Elementary, Technical, Historical, Biographical, Vocal, and Instrumental*. Boston: J.P. Jewett, 1854.
- Mozart, Leopold. *A treatise on the fundamental principles of violin playing*. Oxford: Oxford University Press, 1985.

- Mozart, Leopold. *Versuch einer gründlichen Violinschule*. Augsburg: Verlag des Verfassers, 1756.
- Nevin, Gordon Balch. *A Primer of Organ Registration*. Boston: Oliver Ditson Co, 1920.
- Niecks, Frederick. *A Concise Dictionary of Musical Terms. To Which Is Prefixed an Introduction to the Elements of Music*. London: Augener & Co, 1884
- Norrington, Roger. "The Sound Orchestras Make." *Early Music*. (2004).
- Ogilvie, John and Charles Annandale. *The Imperial Dictionary of the English Language: A Complete Encyclopedic Lexicon, Literary, Scientific, and Technological*. London, Blackie & Son, 1883.
- Online Etymology Dictionary. "un tremulous.)
[http://dictionary.reference.com/browse/un tremulous](http://dictionary.reference.com/browse/un+tremulous) (accessed February 2012).
- Ortiz, Diego, and Ian Gammie. *Trattado De Glosas Sobre Clausulas Y Otros Generos Depuntos En La Musica De Violones / [a Translation of the Spanish Text from the Edition of 1553 / by Ian Gammie]*. St. Albans, Herts, Great Britain: Corda Music, 1986.
- Pisa, Agostino. *Breve dichiarazione della battuta musicale*. Bologna: Forni, 1969.
- Playford, John, Christopher Simpson, and Thomas Campion. *A Brief Introduction to the Skill of Musick In Three Books. The First: the General Grounds and Rules of Musick, According Tho the Gam-Ut and Other Principles Thereof. The Second: Instructions for the Bass-Viol, and Also for the Treble-Violin: Vvith Lessons for Beginners. By John Playford Philo-Musicæ. The Third: The Art of Descant, or Composing Musick in Parts. by Dr. Tho. Campion. With Annotations Thereon by Mr. C. Simpson*. London: Printed by William Godbid for John Playford, and are to be sold at his shop in the Temple, 1667.
- Poulton, Diana. *A Tutor for the Renaissance Lute: For the Complete Beginner to the Advanced Student*. London: Schott, 1991.
- Praetorius, Michael, and David Z. Crookes. *Syntagma Musicum. Parts I and II II, De Organographia*. Oxford: Clarendon Press, 1986.
- Praetorius, Michael. *Syntagmatis musici, (Part II)*. Wolfenbüttel: Holwein. 1619.

- Prelleur, Peter. *The Modern Musick-Master; Or, The Universal Musician, Illustrated and Improv'd...Finely Engrav'd*. London: At the Printing office in Bow Church Yard, 1731.
- Rau, Fritz. *Das Vibrato auf der Violine und die Grundlagen einer natürlichen Entwicklung der Technik für die linke Hand*. Leipzig: C. F. Kahnt, 1922.
- Romberg, Bernhard. *A Complete Theoretical & Practical School for the Violoncello*. London: Boosey & Co, 1840.
- Schröder, Hermann. *Preis-Violinschule*. Leipzig: Ruhle, 1894.
- Schuberth, Julius, and H. W. Nicholl. *Complete Musical Dictionary, Containing Definitions of All English and Foreign Musical Terms and Phrases, to Which Is Prefixed a Summary of the Elements of Music*. New York: E. Schuberth & Co. (J.F.H. Meyer), 1895.
- Seashore, Carl E. *Psychology of the Vibrato in Voice and Instrument*. Iowa City, Ia: University Press, 1936.
- Simpson, Christopher. *The Division-Viol, or, An Introduction to the Playing Upon a Grovnd Divided into Two Parts, the First Directing the Hand, with Other Preparative Instructions, the Second Laying Open the Manner and Method of Playing Ex-Tempore, or Composing Division to a Grovnd : to Which, Are Added Some Divisions Made Upon Grounds for the Practice of Learners*. London: Printed by W. Godbid, 1665.
- Skinner, Ernest M. *The Modern Organ*. New York: The H.W. Gray Co., 1917.
- Spohr, Louis, and John Bishop. *Louis Spohr's celebrated Violin school*. London: R. Cocks, 1843.
- Stainer, John, and William Alexander Barrett. *Stainer and Barrett's Dictionary of Musical Terms*. London: Novello and Co, 1898.
- The Musical Standard, Vol 17 Third Series No. 793, October 11, 1879.
- The Musical World, Vol 51 No. 28, London, July 12, 1873.
- The Strad, Vol. 9-10 Lavendar Publications, 1898.
- Tartini, Giuseppe, and Erwin R. Jacobi. *Traité des agréments de la musique*. Celle: H. Moeck, 1961.

- Tromlitz, Johann George, and Ardal Powell. *The virtuoso flute-player*. Cambridge: Cambridge University Press, 1991.
- Tromlitz, Johann George. *Ausführlicher und gründlicher Unterricht die Flöte zu Spielen*. Leipzig: A.F. Böhme, 1791.
- Tyler, James. *The Early Guitar: A History and Handbook*. London: Music Dept., Oxford University Press, 1980
- Valentine, Thomas. *A Dictionary of Terms Used in Music*. London: Published by S. Chappell, 1833.
- Vallet, Nicolas. *Pieté royalle, c'est a dire: Les cent cinquante Psaumes de David, accomodez pour iover sur le luth, d'une nouvelle et tres facile mode, non encor veue ny ouye par cy devant*. Amsterdam: On les vend chez l'auteur demeurant sur le Lely-Graft, à l'enseigne de la Bastille, 1620.
- Venegas de Henestrosa, Luis, et al. *Libro de cifra nueva. Para tecla, y vihuela, en el qual se ensena brevemente cantar canto ilano, y canto de organo, y algunos avisos para contra punto*. Alcala: Brocar, 1557
- Walker, Francis. *Letters of a Baritone*. New York: Scribner, 1895.
- Wanganui Chronicle, Volume XLIX, Issue 12427, New Zealand, February 14, 1905.
- Watson, Foster. *The Encyclopaedia and Dictionary of Education; A Comprehensive, Practical and Authoritative Guide on All Matters Connected with Education, Including Educational Principles and Practice, Various Types of Teaching Institutions, and Educational Systems Throughout the World*. Vol. 4 London: Waverley Book Co, 1922.
- Watson, Jo-Shipley. "Arnold Dolmetsch at work on the New Old Clavichords." *The Musician* Vol. 27 No. 1, January 1912
- Wedgwood, James Ingall. *A Comprehensive Dictionary of Organ Stops: English and Foreign, Ancient and Modern, Practical, Theoretical, Historical, Aesthetic, Etymological, Phonetic*. London: Vincent Music Co, 1907.
- Winn, Edith Lynwood. *How to Study Fiorillo, A Detailed, Descriptive Analysis of How to Practice These Studies, Based Upon the Best Teachings of Representative, Modern Violin Playing*. New York: C. Fischer, 1910.
- Winn, Edith Lynwood. *Violin Talks*. New York: C. Fischer, 1905.

Winram, James. *Violin Playing and Violin Adjustment*. Edinburgh: W. Blackwood & sons, 1908.

Wotton, Tom S. *A Dictionary of Foreign Musical Terms and Handbook of Orchestral Instruments*. Leipzig: Breitkopf & Härtel, 1907.

